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**FLOODS OF AUGUST 1955
IN THE NORTHEASTERN STATES**

UNITED STATES DEPARTMENT OF THE INTERIOR
Douglas McKay, Secretary

GEOLOGICAL SURVEY
Thomas B. Nolan, Director

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FLOODS OF AUGUST 1955 IN THE NORTHEASTERN STATES

Prepared by Water Resources Division

Washington, D. C., 1956

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PREFACE

This preliminary report on the floods of August 1955, has been prepared by the U. S. Geological Survey, Water Resources Division, C. G. Paulsen, chief, under the general direction of J. V. B. Wells, chief, Surface Water Branch. Much of the collection of the basic streamflow records by the Geological Survey has been made in financial cooperation with public agencies in the States in the area of major flooding, under the direction of the following district engineers: Massachusetts, Rhode Island, H. B. Kinnison; Connecticut, B. L. Bigwood; New York, A. W. Harrington; New Jersey, O. W. Hartwell; Pennsylvania, J. W. Mangan.

Because of the urgent need to perform the field work and the office computations as promptly as possible, many

hydraulic engineers from all sections of the country were brought to the flood area. The assignment of the additional personnel, much of the work of processing computations of peak discharges by indirect methods, and the assembling of this report were performed by hydraulic engineers of the branch staff, under the supervision of Tate Dalrymple, chief, Technical Standards Section.

Several Federal and State agencies contributed technical data. The isohyetal maps were adapted from maps furnished by the U. S. Weather Bureau. Damage figures are those provided by the Business and Defense Services Administration.

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FLOODS OF AUGUST 1955 IN THE NORTHEASTERN STATES

Prepared by Water Resources Division

ABSTRACT

The floods of August 1955 were an unprecedented disaster in a large area of the northeastern United States. They rank among the most destructive in the country's history. Augmented by the antecedent hurricane storm of August 11-15, the rainfall of August 17-20 accompanying hurricane Diane reached maximum values of 17 to 19 inches in south-central Massachusetts. Record-breaking floods resulted within a broad region extending from southeastern Pennsylvania to eastern Massachusetts.

The floods were outstanding in four categories: The large geographic area covered by floods of such magnitude; the extensive damage and loss of life ranking with the greatest recorded in this country; the degree to which prior records were exceeded; and the distribution which was such that the greatest floods occurred predominately on the smaller streams. Property damage has been estimated to be about half a billion dollars and was mostly concentrated in the heavily industrialized valleys of New England. A death toll of 179 persons was attributed to the floods. Peak discharges exceeded previously established maxima by 2.2 and 2.3 times respectively, on Blackstone River at Woonsocket, R. I., and Quinebaug River at Putnam, Conn.; 4.1 times on Naugatuck River near Thomaston, Conn.; and 4.5 times on Bush Kill at Shoemakers, Pa. A unit runoff of 2,300 cubic feet per second per square mile occurred from 2.50 square miles on Powdermill Brook near Westfield, Mass. Although the floods were generally greatest on the smaller streams, Connecticut River at Hartford reached the third highest stage since settlement and Delaware River between Port Jervis and Trenton exceeded the previous historic flood of 1903.

This advance report has been prepared to supply preliminary information needed for immediate planning. It has been released pending preparation of a more comprehensive report covering a three-month period of floods within an area from Massachusetts to North Carolina. Included herein, for the region from Massachusetts to Pennsylvania, are general descriptions of the floods, peak discharges for the present and previous record floods at gaging stations, peak discharges at many miscellaneous sites in the areas of greatest flooding, and detailed stage and discharge data at 51 selected gaging stations.

INTRODUCTION

The floods of mid-August 1955 in the northeastern part of the United States rank among the most destructive floods experienced in the country. Caused by storms of tropical origin, the floods were of disaster

proportions in a broad arc from south of Philadelphia to Boston. The loss of life and the property damage were great because of the relatively thick settlement of the valleys and the concentration of industries along the streams.

Actually, there were two sets of floods in August 1955. The first, resulting from hurricane Connie, occurred mostly in the coastal plain, from North Carolina to New England, on August 12-13. The second set of floods were those of August 18-19, following hurricane Diane. They affected a zone farther inland but essentially concentric with the coastline (see fig. 1).

This report covers the floods of August 18-19, principally, because of the great destruction wrought by those floods and because the need exists for some data on them at an early date. Reference is made in the report to a limited amount of data for the earlier floods in August as collateral information--the first floods set the stage for the second floods and in some places the first floods were the greater.

The technical evaluation of the floods of August 18-19 and the reporting of them were complicated by the occurrence of other major floods in the northeastern States on October 15-16, and by lesser floods on October 5, on October 30, and on November 5. In addition, the eastern part of North Carolina had severe floods September 20. The complex interrelations of the four major floods, the overlapping areas involved, and the timing of the floods, made a comprehensive preliminary report impracticable. A report is in preparation (December 1955) that will cover the three-month flood period and the area from North Carolina to Massachusetts.

The purpose of this advance report is to present a sampling of the streamflow records in the area of severe flooding in the August 18-19 floods. Peak stage and discharge data are presented for most of the gaging stations and for many miscellaneous sites in the report area. Maxima are shown also for the highest previous floods of record, to provide a basis for evaluating the present floods. Detailed data are listed for selected gaging stations, that will enable the user to construct accurate discharge hydrographs. Several assemblies of information are shown in graphical form but detailed analyses of the flood data have not been made. The data for the present flood are preliminary and are subject to possible revision following further review.

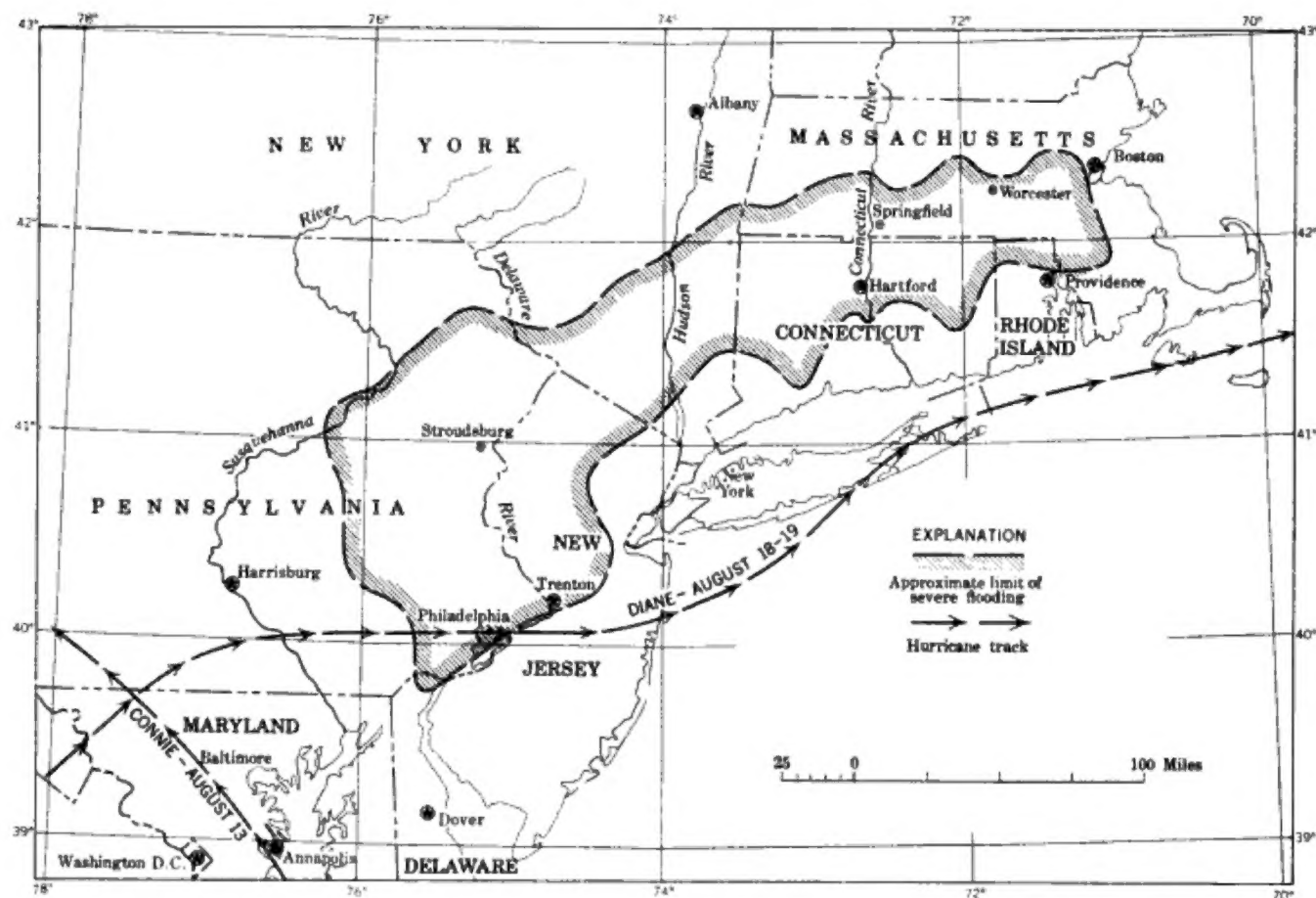


Figure 1.--Map of the area of severe flooding August 18-19, showing tracks of the August hurricanes, Connie and Diane.

GENERAL FEATURES OF THE FLOODS

The Storms

As the summer of 1955 progressed, it was marked by above-average temperatures and by the lack of rainfall. Drought conditions developed in large areas of New England and the Middle Atlantic States, and by the end of July the outlook for adequate water supply and abundant crops was poor. Light to moderate rains occurred in the period August 5-8 over most of the northeastern States, but drought conditions continued.

The drought was dramatically broken by the heavy rains that accompanied the passage of hurricane Connie August 12 and 13. The storm entered the mainland at the North Carolina capes and followed a general northwesterly course across central and western Pennsylvania to the westerly tip of New York (fig. 1). In the period August 11-15, rainfall was heavy over a large area and some totals were outstanding: in western Massachusetts and in western Connecticut, more than 8 inches; in the Catskill Mountains region, more than 15 inches at one station; nearly 13 inches on Long Island; as much as 11 inches in northern New Jersey; and more than 12 inches in southeastern Pennsylvania. The distribution of the rainfall is shown in figure 2.

On August 18 and 19, hurricane Diane moved northward across Virginia with diminishing wind velocities, turned sharply to the east across the southern edge of Pennsylvania and across New Jersey south of Trenton

as shown in figure 1, then went to sea, just skirting Long Island and the southern New England coast.

The rainfall associated with the Diane storm was heaviest along an inland arc from Philadelphia to the Boston area. Amounts of rain were large in eastern Pennsylvania, notably in the Pocono Mountains region, and in the southern part of the Catskill Mountains region. The greatest rainfall occurred in a band along the southern third of Massachusetts and in northwestern Connecticut: over 16 inches south of Boston; more than 17 inches near Worcester; and nearly 20 inches in the Westfield River basin, west of Springfield. The distribution of the rainfall in the period August 17-20 is shown in figure 3.

For more detailed information on the Diane storm and on precipitation in the northeastern States, the investigator is referred to publications of the U. S. Weather Bureau 1/.

The Floods

Damaging floods occurred in many streams as a result of the Connie storm and these will be described in the comprehensive flood report now in preparation. That the floods were not worse may be ascribed to the antecedent dry condition of the soil and the relatively

1/U. S. Weather Bureau, 1955, Preliminary report of hurricane Diane and floods in Northeast--August 1955; Hurricane rains and floods of August 1955, preliminary precipitation data.



Figure 2. -- Map of the flood area, showing total rainfall in the period August 11-15, 1955. (Adapted from map furnished by U. S. Weather Bureau).

NORTHEASTERN FLOODS OF AUGUST 1955



Figure 3. --Map of the flood area, showing total rainfall in the period August 17-20, 1955. (Adapted from map furnished by U. S. Weather Bureau).

large amount of infiltration. The soil became saturated, however, and the base flow in the streams was notably higher after Connie had passed.

What can be described only as a special kind of calamity occurred in the northeastern States, August 18 and 19, 1955. As the torrential rains fell on an almost saturated soil in an area of rapid runoff, the streams rose with terrifying rapidity, overflowed their banks, and flooded the steep valleys of Massachusetts, Connecticut, New York, New Jersey, and Pennsylvania.

The flood waters ravaged everything in their paths. In the forests the hillsides were eroded and many landslides occurred and in the fields the soil and crops were replaced by sand, gravel, and rocks as the waters cut new stream channels and reshaped old channels. Roads were completely destroyed for miles and hundreds of miles of roads required major repairs. Bridge piers and abutments were undermined and debris caught on them--debris including trailer trucks, railroad cars, and houses. Hundreds of bridges were destroyed and communication by highways became a major problem.

The disruption of rail communication likewise was a major problem. The railroads suffered great losses of track, bridges, rolling stock, and other items. Several branch lines had not been repaired by December 1955 and possibly will not be put back into service.

The early settlers built their homes in the valleys near the streams and the communities developed deep in the valleys. The floods smashed these homes and factories and villages. The dams that provided the hydraulic head for power became breached and added the contents of their reservoirs to the natural runoff. Where the flood waters coursed, nothing was spared--houses, stores, banks, supply yards, factories, schools, churches, and even cemeteries were destroyed. The debris resulting from this destruction became the ally of the water and helped to destroy things farther downstream.

Water mains, power lines, telephone and telegraph lines were damaged by the floods, and only radio remained as a means of communication in many places.

Normal activities practically ceased along the valleys. The first need was to evacuate people; nevertheless many perished. Public agencies and private groups acted swiftly and the story of the heroism and the rescues is an epic that is not a part of a report like this; nor is the story of the tremendous cleanup and rehabilitation job that was done.

From the hydrologic viewpoint, the floods of August 18-19 were outstanding. New maximum stages and discharges were recorded and determined at many gaging stations, some of the stations having relatively long records. Based on the statements of old residents and on the historical records, the floods in some areas were the greatest known and rank among those that are identified as rare. It is evident, however, that consideration will have to be given to the possible occurrence again of floods of this magnitude. The hydrologic data obtained during and after the floods can provide the basis of design for future development in much of the area that was flooded.

The chief characteristic of the August 18-19 floods was that they were tributary floods. None of the larger rivers in the area was wholly involved. Reference to figure 1 will show that the flood zone was in an irregular arc essentially normal to the large streams: the Connecticut, the Hudson, the Delaware, the Lehigh, and the Schuylkill. Where a sizable stream was almost wholly in the area of heavy rainfall, like Westfield River, Naugatuck River, and Brodhead Creek, the peak discharges and the amounts of damage were appalling. One can only speculate about what could have happened had the heavy rainfall occurred along the main stem of one of the larger rivers.

The rainfall pattern shows orographic influences where the moisture-laden air swirling in from the sea was forced to rise over the several mountain masses in the area. The relatively complex topography of the northeastern States also caused a high variability in the rainfall and the runoff within comparatively short distances. There are examples of extremely high flows in one basin and practically no storm reaction in the adjoining basin. This variability makes simple hydrologic comparisons somewhat difficult. Studies have not been made as yet that might show the regional characteristics of the floods, but it is suggested that the user consider the regional aspect rather than just the information collected at any one place. What happened in one small area could have been a topographic and geologic characteristic, but also might have been a freak of the storm.

In New England, maxima at many gaging stations exceeded those established in the flood of September 1938, which has been used extensively as the basis for the design of hydraulic structures. At stations along the main Delaware River all previous records were broken, and at places in northeastern Pennsylvania the flood of May 1942 was surpassed.

New England

At the northeasterly end of the flood area in Massachusetts, new highs occurred on such streams in the relatively flat coastal areas as Concord River, Charles River, Neponset River, Taunton River, and others. Damage was mostly from inundation, as compared with damage from fast-moving water.

Blackstone River heads in one of the areas where extremely heavy rainfall occurred during the Diane storm (see fig. 3), and the valleys in the basin are highly industrialized. Failures of dams augmented the natural peaks and the damage effect increased downstream. Velocity damage was great. Horseshoe Dam went out at Woonsocket and that city suffered a major disaster. The peak discharge of Blackstone River at Woonsocket was 2.2 times the peak during the 1938 flood and the stage was 7.4 feet higher.

All the streams that head in Massachusetts and flow generally southward into Connecticut, along the entire northern boundary of Connecticut, had severe floods. The upper tributaries and the entire main stem of Quinebaug River were subjected to new maximum flows. Nearly all the dams on French River were destroyed or badly damaged; the failure of one dam breached

U. S. Highway 20, at West Auburn. Another large washout on this principal east-west route occurred at Charlton City, Mass., where a sudden surge occurred in Cady Brook as a result of the destruction of Glen-echo Dam, about 2 miles upstream. The flood wave carried through to Southbridge, about 7 miles downstream, where Cady Brook joins Quinebaug River. At Southbridge the discharge of Cady Brook was about 26,300 cubic feet per second (cfs), from a drainage area of 12.0 square miles.

Putnam, Conn., was badly damaged by Quinebaug River. The gaging station there showed a peak discharge of 48,000 cfs, which was 2.3 times that in the 1938 flood, and the stage was about 7.0 feet higher than in 1938. Events of similar magnitude occurred throughout the Quinebaug basin, except for the tributaries from the east, which had relatively minor floods. Small tributaries of Willimantic River also were very high.

In the Chicopee River basin (which is tributary to Connecticut River), Chicopee River, Ware River, and Swift River did not reach flows as great as those in September 1938. Quaboag River and its tributaries, however, had extremely high peaks. For instance, Quaboag River at West Brimfield had a peak discharge of 12,800 cfs--about 1.5 times the 1938 peak. The discharge from small tributaries was very large, with unit discharge of about 800 cfs per square mile from drainage areas of less than 8 square miles. Blodgett Mill Brook caused a large amount of damage to the Massachusetts Turnpike, which was under construction. U. S. Highway 20 was inundated at several places, and dams, factories, houses, and all lines of communication received large amounts of damage.

The same pattern was repeated to the south in Connecticut, where Scantic River at Broadbrook, Conn., had a peak flow nearly twice that recorded in 1938. Farther to the south, along the east side of Connecticut River, the flood effect was much less.

The main stem of Connecticut River itself had what might be called a midbasin flood; that is, the drainage area above the center of Massachusetts contributed relatively little flood water. Most of the flow in the middle reaches of the Connecticut came out of Chicopee River, Westfield River, Farmington River, and other tributaries, between Northampton, Mass., and Hartford, Conn. The discharge of these tributaries was enough to make the flood peak third highest at Hartford, in a record that dates from the time of the early settlements in New England. There was inundation of the flood plains along the main channel with considerable rural damage, but damage was reduced at a number of communities because of the dikes that had been constructed after earlier floods. It is estimated that Hartford itself was saved a large amount of destruction by the flood-protective works along Park River, which reached a peak of 16,200 cfs, about 3 times as high as in 1938.

The major damage in western Massachusetts occurred in the Westfield River basin. It was in this basin that the maximum rainfall (nearly 20 inches) for the Diane storm was measured (see fig. 3), and this cloudburst fell on the large area that had an 8-inch rainfall in the Connie storm. Damage throughout the basin was of disaster proportions. Spectacular damage was caused by small tributaries with precipitous slopes.

Long stretches of valley roads disappeared completely. Tobacco crops and harvested leaf tobacco in the flood plains along lower Westfield River and tributaries were total losses in extensive areas. The typical assortment of flood damages occurred and reached a maximum in the industrial city of Westfield.

In the Westfield River basin the Knightville flood control dam cut off the contribution from 162 square miles (the dam had not been built in 1938). Despite this reduction in effective drainage area, the gaging station on Westfield River near Westfield, Mass., had a peak flow of 70,300 cfs as compared with 55,500 cfs in 1938, and the stage was 4.8 feet higher. The highest known unit discharge in the entire flood area of the northeast occurred in Powdermill Brook near Westfield, where a determination of peak discharge showed 2,300 cfs per square mile from a drainage area of 2.50 square miles.

Farmington River basin was one of the most seriously affected areas in the flood. West Branch Farmington River heads in Massachusetts, flows southward into west-central Connecticut, and empties into Connecticut River not far above Hartford. The main stem and all tributaries of Farmington River had flood flows of disaster proportions. Winsted, Conn., the scene of some of the most spectacular damage, is in this basin. Here, Mad River overflowed its constricted channel and destroyed much of the commercial and industrial part of the city. The flow of Mad River near Winsted was computed to be 10,200 cfs from a drainage area of 19.7 square miles. The combination of high rainfall and a narrow, populated valley caused a large amount of damage, and a number of deaths occurred.

Rates of discharge were very high in the upper tributaries of Farmington River. In the vicinity of Barkhamsted Reservoir, Valley Brook near West Hartland, Conn., had a unit peak discharge of 1,150 cfs per square mile, from a drainage area of 7.20 square miles; East Branch Salmon Brook at North Granby, Conn., had a unit discharge of 1,080 cfs per square mile from 13.2 square miles.

Naugatuck River is the principal stream in west-central Connecticut. Tributaries in the upper half of the basin and the main stem throughout had record high rates of discharge. The valley of the Naugatuck is highly industrialized and the damage of all sorts was tremendous. The roll of disaster cities is a roll of all the communities along the main valley: Torrington, Thomaston, Waterbury, Naugatuck, Seymour, Ansonia, and others.

The flow of Naugatuck River near Thomaston was 41,600 cfs from a drainage area of 71.9 square miles; this was 4.1 times greater than the peak flow of the 1948 flood, which was the highest in the period of record starting in 1930. The stage of 24.0 feet near Thomaston was twice that of the 1948 flood.

The same story was repeated down the entire valley. At the city of Naugatuck, Naugatuck River reached a flow of 106,000 cfs at a stage of 25.7 feet, as compared with 28,500 cfs and 12.4 feet respectively, in the 1948 flood, the previous high in a record extending back to 1918. There is no record of floods, either measured or historical along the main stream and along most of the tributaries that compares with this tremendous flow of water.

Although small tributaries in the headwaters of the Housatonic River basin were fairly high and those tributaries coming in from the east had destructive flows, the upper Housatonic itself did not have an outstanding flood. At Falls Village, Conn., for instance, the discharge of 22,700 cfs was slightly lower than the previous high in the period of record starting in 1912.

The middle reaches of Housatonic River, however, had new peaks and a considerable amount of flood destruction. At Gaylordsville, Conn., the peak discharge of 51,800 cfs was 1.6 times the peak that occurred in 1938. One of its tributaries, Tenmile River, also had a new peak discharge with about the same relation to the 1938 peak.

Shepaug River, which lies between the Housatonic and the Naugatuck, had a tremendous flood. The discharge at the gaging station near Roxbury was 50,300 cfs, as compared with 10,500 cfs in 1938. This new peak was at a unit rate of 378 cfs per square mile from a drainage area of 133 square miles.

A similar relationship existed on Pomperaug River, which is tributary to Housatonic River. At Southbury, the peak discharge was 29,400 cfs, 4.0 times the 1938 peak, and the stage was about 5.8 feet higher than in 1938.

Farther downstream, at the gaging station at Stevenson, the peak discharge of Housatonic River was high, being slightly less than that in 1936, which happened to be the year of the previous high discharge at that point.

Except for the destructive flows in the Woonsocket area, streamflow during the Diane flood was generally moderate to low in Rhode Island and in the southern part of Connecticut. The exceptions to this would be the main stems of the larger streams which carried large amounts of flood water to Long Island Sound, streams such as Thames River, Connecticut River and Housatonic River. The flood debris from these streams prevented use by boats of some harbors along the Connecticut shore. Wreckage, and even salvagable materials, floated to the Long Island shore where it was deposited on the beaches in large quantities.

New York

The area of severe flooding extended into New York, but damage was limited mostly to a narrow band from the vicinity of Poughkeepsie to Port Jervis, and in the Wallkill River basin. The usual flood damage occurred but the total in New York was the least among the six States most affected by the floods of August 18-19.

East of Hudson River, outstanding floods occurred on Wappinger Creek and Bashbish Creek. Several bridges were destroyed in the Copake Falls area where Bashbish Creek produced a peak discharge of about 10,800 cfs from 15.8 square miles. At the gaging station on Wappinger Creek near Wappingers Falls, a new peak was established for the record started in 1928.

An area of major flooding was the Rondout Creek and Wallkill River basins, on the west side of Hudson River. Tributaries of Rondout Creek were particularly high and considerable damage occurred in the Ellenville, N. Y., area. A new peak discharge occurred at

the gaging station on Rondout Creek at Rosendale for a record of 29 years.

Extensive areas of rich bottom lands were inundated in the Wallkill River basin, resulting in the loss of a large part of an onion crop, one of the specialties of the region. New peak discharges were recorded at six of the eight gaging stations in the basin.

Highly destructive flows occurred in all the streams tributary to Rondout Creek and Neversink River in the valley which extends from Kingston, N. Y., to Port Jervis, N. Y. At the gaging station at Godeffroy, the flood peak of Neversink River was 33,000 cfs, about 1.6 times the previous peak. U. S. Highway 209 was inundated at many places and many small-stream bridges were destroyed.

New Jersey

Among the six States in the flood area, New Jersey was fourth in flood damage, in descending order. The principal areas of flooding were in part of the Passaic River basin, the lower part of the Raritan River basin, and the main Delaware River and its northern tributaries. Except along the Delaware, the damage was essentially scattered and no deaths were reported in New Jersey. There was a considerable amount of damage in the village of Branchville as a result of the destruction of a dam on a relatively small stream.

In north-central New Jersey, a new peak discharge was established at only one gaging station, that on Wanaque River at Monks. The peak flow at this station was 3,400 cfs, as compared with 2,660 cfs during the previous highest flood.

New peaks were established at three gaging stations in the Raritan River basin. One was the 18,000 cfs reading at the gaging station on South Branch Raritan River at Stanton, which was about 1.7 times the previous peak.

The most notable feature of the August floods in New Jersey was the great flood on Delaware River. At all five gaging stations between Port Jervis, N. Y., and Trenton, N. J., new peaks were established, both in stage and discharge, exceeding even the historical flood of 1903. Many communities were damaged extensively by both quiet inundation and fast-moving water. Three bridges across Delaware River were destroyed: the bridge between Easton, Pa., and Phillipsburg, N. J.; the old bridge between Portland, Pa., and Columbia, N. J.; and the bridge between Point Pleasant, Pa., and Byram, N. J. It is noteworthy that the old covered bridge at Portland and Columbia was started in 1831 and was completed in 1869. It withstood all floods until the disaster in August 1855, and even then it gave way only when it was about three-quarters submerged.

At Port Jervis, N. Y., the peak stage of Delaware River was about 0.8 feet higher than in October 1903 and the discharge was computed to be 14 percent higher. At the last gaging station downstream, at Trenton, the stage was 0.1 feet higher than in 1903. A stage 2 feet higher occurred in 1904 as a result of an ice jam. The memories of old residents and the historical records indicate that in discharge the 1955 flood was the greatest on Delaware River since the country was first settled.

Pennsylvania

The area of severe flooding in Pennsylvania during the floods of August 18-19, 1955, extended from Lackawanna, Susquehanna, and Schuylkill Rivers to Delaware River. A large part of the damage occurred in the Pocono Mountains region, but a considerable amount occurred elsewhere.

Flood flows were particularly high in the Lackawaxen River basin. The peak flow of East Branch Wallenpaupack Creek at Greentown, Pa., was 33,300 cfs from 33.9 square miles, which gives a unit discharge of 982 cfs per square mile. Ten people died at Greentown in the portion of the community that was on the flood plain.

For the first time in many years, and one of the few times that it has occurred, Wallenpaupack Lake overflowed, but discharge from the lake did not begin until after the peak had passed in Lackawaxen River, into which the lake drains.

The village of Hawley, Pa., was severely damaged. One of the outstanding areas of destruction for the entire flood was at Newfoundland, Pa., where essentially the entire community was swept by the waters from Wallenpaupack Creek. The dreadful monotony of such destruction is indescribable.

All small and large tributaries (in Pennsylvania) of Delaware River from Port Jervis to Delaware Water Gap, had very high and very destructive flows. Practically every bridge along U. S. Highway 209 in that reach was destroyed or heavily damaged. The flow of Bush Kill at Shoemakers, Pa., reached a peak of 23,400 cfs, which was 4.5 times the previous peak (1920) in the period of record starting in 1908.

The most spectacular phase of the floods in Pennsylvania occurred in the Brodhead Creek basin, the upper part of which is in the Pocono Mountains. Flood flow in all parts of the basin was highly destructive and damage of all kinds occurred from Canadensis to Minisink Hills. The scene of the greatest single tragedy of the August floods, was just a few miles above Stroudsburg, Pa., where more than 30 persons, mostly children, lost their lives at a camp on the banks of Brodhead Creek. The main line of the Delaware, Lackawanna, & Western Railroad was destroyed at a number of places and service was not resumed for about two months. Damage to the railroad amounted to millions of dollars.

At Analomink, Pa., the peak flow of Brodhead Creek was computed to be 72,200 cfs from a drainage area of 124 square miles, giving a unit discharge of 582 cfs per square mile. This was a far greater flood flow than any before, even back into the historical records.

The flood in the Lehigh River basin was a major flood. It was principally an upper basin flood but new records were established at all gaging stations along the main stem of the Lehigh except the one farthest downstream, at Bethlehem, Pa. A flow of 58,300 cfs was computed at Tannery, Pa. This rate of discharge was about twice that previously recorded in the 41 years of record at the station, and the stage was 5.7 feet higher.

Similar high flows occurred in other important tributaries of Delaware River; for instance, Neshaminy

Creek near Langhorne, Pa., had a peak of 49,300 cfs, about twice the previous high in the 20 years of record.

The northern tributaries of Schuylkill River contributed large amounts of runoff and a considerable amount of damage occurred. For the Schuylkill, it was mostly a tributary flood, but a new high was recorded on the main stem at Berne, Pa. The damage area extended into the city of Philadelphia although the destruction there was not great.

In the Susquehanna River basin, most of the heavy damage was concentrated in the Scranton and Wilkes-Barre area, caused mostly by small streams. One of the outstanding flows occurred on Roaring Brook at Dunmore, Pa., where the peak discharge of 18,500 cfs gave a unit rate of 374 cfs per square mile from 49.4 square miles.

Damaging flows occurred in tributaries of Susquehanna River as far south as Bloomsburg, but the rise on the Susquehanna itself was only relatively moderate.

Summary of Flood Damage

The damage caused by the floods of August 18-19 in the northeastern States has been estimated to be in the magnitude of half a billion dollars. Early estimates ran six times as high, but they were made at a time when the damage could not be assessed accurately. The estimates of flood damages vary with different methods of evaluation, particularly with respect to intangible damage.

The Corps of Engineers is making detailed damage surveys but these were not available for inclusion in this report. A summary prepared by the Business and Defense Services Administration as listed in their press release 2/ is presented in table 1. The figures in table 1 are subject to modification as the full story of the flood damage is revealed.

Data are not available at the moment on the number of highway bridges destroyed or on many other specific items.

FLOOD DATA

Data on the floods of August 1955 in the northeastern States were collected at many gaging stations operated by the U. S. Geological Survey in the six-State area. The basic records are continuous records of stage and discharge, which may be combined for varying periods and in various ways to suit the needs of the user. To supplement the records for the gaging stations, peak discharge also was determined at many miscellaneous sites, where there were no gaging stations. The location of the gaging stations and the miscellaneous sites are shown on plate 1.

Stage and discharge data have been assembled in the following sections of this report. Data for selected gaging stations are presented as it is not possible to show in this preliminary report the records for all

2/ Press release BD-574, Business and Defense Services Administration, U. S. Dept. of Commerce, Washington, D. C., October 31, 1955.

Table 1. --Summary of damages and casualties caused by floods of August 18-19, 1955, in the Northeast.

[Data provided by Business and Defense Services Administration, U. S. Dept. of Commerce]

Classification	Massachusetts	Rhode Island	Connecticut	New York	New Jersey	Pennsylvania	Total
Industrial----	\$55,000,000	\$5,700,000	\$83,871,000	\$382,000	\$1,250,000	----- a 20,684,000	\$146,203,000 20,684,000
Commercial --	5,410,000	2,200,000	42,601,000	1,354,000	-----	-----	51,565,000
Roads -----	23,476,000	900,000	26,233,000	6,380,000	8,500,000	16,937,000	82,426,000
Dwellings----	b 198,000	3,000,000	23,953,000	968,000	12,954,000	6,034,000	47,107,000
Utilities -----	25,000,000	6,200,000	29,702,000	5,000,000	3,986,000	9,419,000	79,307,000
Agricultural --	1,329,000	-----	2,424,000	2,200,000	10,000	1,082,000	7,045,000
Miscellaneous-	-----	-----	6,461,000	-----	c 825,000	d 16,051,000	23,337,000
Total-----	\$110,413,000	\$18,000,000	\$215,245,000	\$16,284,000	\$27,525,000	\$70,207,000	\$457,674,000
Dwellings destroyed ---	97	34	563	26	93	-----	813
Casualties							
Deaths	12	1	77	1	0	88	179
Major injuries	77	32	6,773	6	10	94	6,992

^a Industrial and commercial.^b Appears to be low.^c Railroad damage.^d Includes \$14,618,000 railroad damage.

gaging stations in the flood area. Graphs of data are presented to show the interrelation of the flows at the many points where discharge was determined, but comprehensive analyses were not made.

The problem of obtaining records of stage and discharge at some of the gaging stations was made more difficult by the destruction of part or all of the station facilities. The floods destroyed gage houses, cableways, controls, and associated parts of station installations. At several places, the recorders were swept away.

Measurement of Flood Discharges

Whenever possible, the discharge of streams at gaging stations is measured by current meter, at both high or low stages. Current-meter measurements were made at some of the gaging stations during the August floods. It was impossible to reach them all at or near the peak stage, because of road conditions and because of the number of engineers available.

At many gaging stations, and at all miscellaneous sites, the peak discharge during the floods was determined by what are known as indirect methods. Such

determinations are made by one or more of the following methods: Slope area, contraction, culvert flow, flow over dam, and flow over embankment.

The field work associated with the indirect determinations was accomplished after the August floods had subsided. Using the methods listed above, it was possible to obtain a wealth of peak-flow information at many places where the data could not have been obtained by other means.

Summary of Stages and Discharges

A summary of stages and discharges that occurred in the August floods has been prepared, presented on the succeeding pages as table 2. The summary lists the gaging stations and miscellaneous sites in downstream order. The reference numbers refer to the sites as identified on the general map, plate 1.

For gaging stations, the highest flood in the period of record is shown. At some stations, the highest stage and highest discharge may not have occurred during the same flood. Any greater flood outside the period of record is listed if known.

At points where peak-discharge was not determined by gaging-station operations, a headnote is used to show the method of determination.

Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955

[Station description and hydrograph data are given in this report for the gaging stations indicated by an asterisk (*). Maximum discharges for the floods of August 1955 were obtained from gaging station records or by special methods as indicated by the following symbols: A, slope-area measurement; B, contracted-opening measurements; C, computation of flow through culvert; D, computation of flow over dam; E, computation of flow over embankment]

No. on pl 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
MERRIMACK RIVER BASIN											
1	Assabet River at Maynard, Mass.	116	1941-55	Sept. 13, 1954	6.47	1,870	16.1	Aug. 20, 7:30 to 8 p.m.	8.96	4,270	36.8
2*	Concord River below River Meadow Brook, at Lowell, Mass.	405	1936-55	July 29, 1938	8.11	3,790	a 12.1	Aug. 23, 8 to 10 p.m.	8.97	4,540	a 14.6
CHARLES RIVER BASIN											
3*	Charles River at Charles River Village, Mass.	184	1937-55	July 27, 1938 March 1936	9.00 -	3,110 3,170	16.9 17.2	Aug. 23, 2 to 3 p.m.	9.24	3,220	17.5
4	Mother Brook at Dedham, Mass.	-	1931-55	July 28, 1938	91.84	909	-	Aug. 24, 5 to 8 a.m.	92.90	960	-
5	Charles River at Waltham, Mass.	251	1931-55	Mar. 19, 1936	4.79	2,540	10.1	Aug. 19, 3:30 p.m.	5.35	2,480	9.82
NEPONSET RIVER BASIN											
6	Neponset River at Worwood, Mass.	35.2	1939-55	May 9, 1954 July 24, 1938	10.90 b 11.05	430	12.2	Aug. 19, 6:30 p.m.	b 14.65	1,450	41.2
TAUNTON RIVER BASIN											
7	Taunton River at State Farm, Mass.	260	1929-55	Dec. 8, 1945 May 18, 1954	11.57	3,190	12.3	Aug. 22, 7 to 8 p.m.	13.02	4,280	16.5
8	Wading River at West Mansfield, Mass.	19.2	1953-55	May 9, 1954	4.89	188	9.76	Aug. 20, 4:30 to 6:30 p.m.	6.22	517	26.9
9	Wading River near Norton, Mass.	42.4	1925-55	Mar. 12, 1936	10.01	1,030	24.3	Aug. 20, 7 a.m.	10.98	1,170	27.6
PROVIDENCE RIVER BASIN											
10	Kettle Brook at Worcester, Mass.	31.3	1923-55	Mar. 18, 1936	b 8.58	2,520	80.5	Aug. 19, 12 m.	b 12.78	3,970D	127
11	Quinsigamond River at North Grafton, Mass.	25.5	1939-55	Sept. 12, 1954	3.50	395	15.5	Aug. 20, 12 m.	5.15	840	32.9
13	Mumford River at East Douglas, Mass.	27.8	1939-51	Mar. 22, 1948	5.10	420	15.1	Aug. 19	b 12.0	2,140D	77.0
14	Blackstone River at Blackstone, Mass.	259	-	March 1936	-	11,800	45.6	Aug. 19	-	18,800D	72.6

FLOOD DATA

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		1940-55	Sept. 12, 1954 March 1936	9.12	2,900 5,800	31.1 62.2	Aug. 19, 10:30 p.m.	10.52	4,240	45.4
15	Branch River at Forestdale, R.I.									
16*	Blackstone River at Woonsocket, R.I. THAMES RIVER BASIN									
17	Crystal Lake Brook near West Stafford, Conn.	1929-55	July 24, 1938	14.43	15,100	36.3	Aug. 19, 10 p.m.	21.8	c32,900A	-
18	Willimantic River near Stafford Springs, Conn.	---	---	-	-	-	About Aug. 19	-	784A	134
19	Roaring Brook near West Wilmington, Conn.	---	---	-	-	-	About Aug. 19	-	14,500A	271
20*	Willimantic River near South Coventry, Conn.	1931-55	Sept. 21, 1938	18.08	15,500	128	About Aug. 19 Aug. 19, 4 p.m.	-	2,920C 24,200B	162 200
21	Hop River near Columbia, Conn.	1932-55	Sept. 21, 1938	16.25	6,450	84.6	Aug. 19, 2:15 p.m.	b15.10	4,620	60.6
22	Safford Brook near Woodstock Valley, Conn.	1950-55	Sept. 11, 1954	5.89	566	139	Aug. 19, 6:45 a.m.	6.68	1,000CE	245
23	Mount Hope River near Warrenville, Conn.	1940-55	Sept. 11, 1954	9.20	1,500	51.5	Aug. 19, 8:30 a.m.	10.41	5,590B	192
24	Natchaug River at Willimantic, Conn.	1930-55	Sept. 21, 1938	16.39	32,000	189	Aug. 19, 11 p.m.	5.68	d1,470	d147
25	Shetucket River near Willimantic, Conn.	1904-5, 1919-21 1928-55	Sept. 21, 1938	27.6	52,200	130	Aug. 19, 11:30 p.m.	17.36d	21,300	d88.0
26	Little River near Hanover, Conn.	1951-55	Sept. 12, 1954	5.32	935	31.4	Aug. 19, 8:30 p.m.	6.48	1,400	47.0
27	Wales Brook near Wales, Mass.	---	---	-	-	-	Aug. 19	-	1,080A	291
28	Hamilton Reservoir Outlet near Holland, Mass.	---	---	-	-	-	Aug. 19	-	6,540B	270
29	Quinebaug River at Fiskdale, Mass.	---	September 1938	-	7,000	e103	Aug. 19	-	15,400A	228
30*	Quinebaug River at Westville, Mass.	1939-55	Mar. 22, 1948 September 1938	6.93	1,500 8,400	16.0 89.6	Aug. 19, 6:30 p.m.	16.11	17,500A	187
31	Upper Sibley Pond Outlet at Charlton City, Mass.	---	---	-	-	-	Aug. 19	-	1,240DE	556
32	Cady Brook at Southbridge, Mass.	---	---	-	-	-	Aug. 19	-	f26,300A	-

See footnotes at end of table, p. 29.

Table 2. -Summary of stages and discharges in the Northeast during the floods of August 1955.-Continued

No. on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
THAMES RIVER BASIN--Continued											
33	Cohasset Brook at Southbridge, Mass.	2.87	---	---	-	-	-	Aug. 19	-	1,280D	446
34	Lebanon Brook at Southbridge, Mass.	10.0	---	---	-	-	-	Aug. 19	-	1,140D	114
35	Alder Meadow Brook near Spencer, Mass.	2.18	---	---	-	-	-	Aug. 19	-	1,530A	702
36	French River at North Oxford, Mass.	24.1	---	Mar. 18, 1936	-	2,030	84.2	Aug. 19	-	8,540AD	354
37	South Fork Little River at outlet of Granite Reservoir at South Charlton, Mass.	7.97	---	---	-	-	-	Aug. 19	-	2,060DE	258
38	Little River at Buffumville, Mass.	27.7	1939-55	Sept. 12, 1954	7.33	1,220	44.0	Aug. 19, 4:30 p. m.	15.53	8,340D	301
39*	French River at Webster, Mass.	85.3	1948-55	Sept. 12, 1954 Mar. 19, 1935	11.64 -	2,320 4,700	27.2 55.1	Aug. 19, 6 p. m.	26.05	14,400D	169
40	Quinebaug River at Quinebaug, Conn.	157	1931-55	Sept. 21, 1938	16.21	14,100	89.8	Aug. 19	b18.96	49,300A	314
41	Quinebaug River at Putnam, Conn.	331	1929-55	Sept. 21, 1938	19.45	20,900	63.1	Aug. 19	b26.5	48,000A	145
42	Five Mile River at Killingley, Conn.	58.2	1937-55	July 24, 1938	8.52	2,480	42.6	Aug. 20, 4 p. m.	5.76	1,120	19.2
43	Quinebaug River at Dyer Dam site near Danielson, Conn.	465	---	Mar. 19, 1936	-	22,800	49.0	About Aug. 19	-	43,900B	94.4
44	Moosup River at Moosup, Conn.	63.5	1932-55	Mar. 12, 1936	8.35	4,260	51.0	Aug. 20, 7 a. m.	5.17	1,520	18.2
45*	Quinebaug River at Jewett City, Conn.	711	1918-55	Mar. 19, 1936	24.0	29,200	41.1	Aug. 20, 5-6 p. m.	29.0	40,700D	57.2
46	Yantic River at Yantic, Conn.	88.6	1930-55	Sept. 21, 1938	14.66	13,500	152	Aug. 19, 11:30 p. m.	7.53	1,950	22.0
CONNECTICUT RIVER BASIN											
47*	Connecticut River at Montague City, Mass.	7,865	1904-55	Mar. 19, 1936	49.2	236,000	30.0	Aug. 14, 1 to 1:30 p. m.	19.75	42,800	5.44
48	Mill River at Northampton, Mass.	52.8	1938-55	Mar. 31, 1951	9.38	3,840	72.7	Aug. 19, 7 a. m.	11.78	6,300D	119

Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No. on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
CONNECTICUT RIVER BASIN--Con.											
68*	Chicopee River at Indian Orchard, Mass.	688	1928-55	Sept. 21, 1938	-	45,200	65.7	Aug. 19, 4 p. m.	22.14	h 40,500D	h 80.7
69	Mill River at Springfield, Mass.	33.9	1938-51	---	-	-	-	Aug. 19, several hours in morning	12.02	1,960	57.8
70	Westfield River at Knightville, Mass.	162	1909-55	Sept. 21, 1938	129.58	37,900	234	Aug. 28, 10 a. m.	6.67	j 4,680	-
71*	Middle Branch Westfield River at Goss Heights, Mass.	52.6	1910-55	Mar. 12, 1936	13.87	-	-	Aug. 19, 4 a. m.	11.33	16,500A	314
72	Walker Brook at Chester, Mass.	17.7	---	---	-	-	-	Aug. 19	-	5,220A	295
73*	West Branch Westfield River at Huntington, Mass.	83.7	1935-55	Sept. 21, 1938	15.5	21,800	233	Aug. 19, 4:30 a. m.	15.27	26,100A	279
74	Stage Brook near Russell, Mass.	5.21	---	---	-	-	-	Aug. 19	-	4,910A	942
75	Black Brook near Russell, Mass.	2.97	---	---	-	-	-	Aug. 19	-	1,760D	593
76	Potash Brook at Blandford-Russell town line, Mass.	1.53	---	---	-	-	-	Aug. 19	-	1,210A	791
77	Westfield River at Woronoco, Mass.	351	---	---	-	-	-	Aug. 19	-	m 61,500D	m 325
78	Cobble Mountain Reservoir tributary near Granville, Mass.	.66	---	---	-	-	-	Aug. 19	-	415C	629
79	Cooks Brook at West Parish, Mass.	.32	---	---	-	-	-	Aug. 19	-	218CE	681
80	Dickinson Brook near Granville, Mass.	6.42	---	---	-	-	-	Aug. 19	-	5,750A	896
81	Westfield Little River at Stevens Paper Co. dam, at Westfield, Mass.	77.7	---	---	-	-	-	Aug. 19	-	n 21,700D	-
82	Powdermill Brook near Westfield, Mass.	2.50	---	---	-	-	-	Aug. 19, about 1 a. m.	-	5,740CE	2,300

83	Great Brook at Southwick, Mass.	19.3	---	---	---	---	---	---	---	---	Aug. 19	-	o 3,610CE	187
84*	Westfield River near Westfield, Mass.	497	1914-55	Sept. 21, 1938	29.40	55,500	112	Aug. 19, 7 to 8 a. m.	34.2	p70,300D	Aug. 19, 7 to 8 a. m.	-	-	-
85*	Connecticut River at Thompsonville, Conn.	9,661	1928-55	Mar. 20, 1936	16.6	282,000	29.2	Aug. 19, 7 p. m.	10.93	174,000	Aug. 19, 7 p. m.	-	-	-
86	Clay Brook near Suffield, Conn.	.69	---	---	---	---	-	About Aug. 19	-	531C	About Aug. 19	-	531C	770
87	Stony Brook near Suffield, Conn.	36.9	---	---	---	---	-	About Aug. 19	-	17,300A	About Aug. 19	-	17,300A	469
88	Scantic River at Scitico, Conn.	66.0	---	---	---	---	-	About Aug. 19	-	15,400B	About Aug. 19	-	15,400B	233
89*	Scantic River at Broad Brook, Conn.	98.4	1928-55	Sept. 21, 1938	16.08	7,360	74.8	Aug. 19, 6 p. m.	18.9	13,300A	Aug. 19, 6 p. m.	-	13,300A	135
90	Fall River at Otis Reservoir Outlet near Cold Spring, Mass.	17.2	---	---	---	---	-	Aug. 19	-	1,320	Aug. 19	-	1,320	76.7
91	Silver Brook at West New Boston, Mass.	6.52	---	---	---	---	-	Aug. 19	-	4,370A	Aug. 19	-	4,370A	670
92	Clam River at West New Boston, Mass.	29.3	---	---	---	---	-	Aug. 19	-	12,100A	Aug. 19	-	12,100A	413
93*	West Branch Farmington River near New Boston, Mass.	92.0	1913-55	Sept. 21, 1938	12.94	g 18,500	g 247	Aug. 19, 4:45 a. m.	14.06	34,300A	Aug. 19, 4:45 a. m.	-	34,300A	373
94	West Branch Farmington River near Riverton, Conn.	128	---	---	---	---	-	About Aug. 19	-	57,200A	About Aug. 19	-	57,200A	447
95	Mad River near Winsted, Conn.	19.7	---	---	---	---	-	About Aug. 19	-	10,200A	About Aug. 19	-	10,200A	518
96	Colebrook Brook near Winsted, Conn.	2.84	---	---	---	---	-	About Aug. 19	-	1,660A	About Aug. 19	-	1,660A	585
97	Highland Lake outflow at Winsted, Conn.	7.30	---	---	---	---	-	About Aug. 19	-	4,050AD	About Aug. 19	-	4,050AD	555
98	Sandy Brook near Robertsville, Conn.	31.1	---	---	---	---	-	About Aug. 19	-	10,100B	About Aug. 19	-	10,100B	325
99*	Still River at Robertsville, Conn.	84.4	1948-55	Dec. 31, 1948	10.12	9,550	113	Aug. 19, 8 a. m.	16.48	44,000A	Aug. 19, 8 a. m.	-	44,000A	522
100	West Branch Farmington River at Riverton, Conn.	216	1928-55	Sept. 21, 1938	17.95	37,100	172	Aug. 19, 7 a. m.	b20.3	101,000	Aug. 19, 7 a. m.	-	101,000	468
101	Morgan Brook near Winsted, Conn.	6.39	---	---	---	---	-	About Aug. 19	-	2,510C	About Aug. 19	-	2,510C	393
102	Hubbard River near West Hartland, Conn.	19.9	---	---	---	---	-	About Aug. 19	-	10,500C	About Aug. 19	-	10,500C	528

See footnotes at end of table p. 29.

Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No. on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood				
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	
	CONNECTICUT RIVER BASIN Conn.											
103	Valley Brook near West Hartland, Conn.	7.20	---	---	-	-	-	About Aug. 19	-	8,260A	1,150	
104	Beaver Brook near Barkhamsted, Conn.	5.31	---	---	-	-	-	About Aug. 19	-	3,350C	631	
105	Farmington River near Collinsville, Conn.	360	---	Sept. 21, 1938	-	54,000	150	About Aug. 19	-	140,000A	389	
106*	Burlington Brook near Burlington, Conn.	4.12	1931-55	Sept. 21, 1938	7.24	676	164	Aug. 19, 4 a.m.	9.22	1,720D	410	
107	Pequabuck River at Forestville, Conn.	45.2	1941-55	Dec. 31, 1948 September 1938	6.70 b 7.3	3,260 3,800	72.1 84.1	Aug. 19, 7:30 a.m.	13.22	11,700A	259	
108	East Branch Salmon Brook at North Granby, Conn.	13.2	---	---	-	-	-	About Aug. 19	-	14,300A	1,080	
109	West Branch Salmon Brook at West Granby, Conn.	11.7	---	---	-	-	-	About Aug. 19	-	10,500A	897	
110	Salmon Brook near Granby, Conn.	60.6	1946-55	Dec. 31, 1948	13.55	3,440	56.8	Aug. 19, 4 a.m.	23.58	140,000	660	
111*	Farmington River at Rainbow, Conn.	584	1928-55	Sept. 22, 1938 Jan. 1, 1949	- 13.83	29,900 -	51.2 -	Aug. 19, 10-11 p.m.	23.5	69,200D	118	
112	South Branch Park River at Hartford, Conn.	40.6	1936-55	Sept. 21, 1938	13.6	3,600	88.7	Aug. 19	b 19.65	7,000	172	
113	North Branch Park River near Hartford, Conn.	18.6	---	---	-	-	-	About Aug. 19	-	7,980A	429	
114	North Branch Park River at Hartford, Conn.	25.3	1936-55	Jan. 25, 1938	11.6	3,000	119	Aug. 19	b 18.8	10,000	395	
115	Park River at Hartford, Conn.	74.0	1936-55	Jan. 25, 1938	9.16	5,650	76.4	Aug. 19	b 16.36	16,200A	219	
116	Hockanum River near East Hartford, Conn.	74.5	1914-21 1928-55	Sept. 21, 1938	b 13.78	5,160	69.3	Aug. 19, 12:30 p.m.	10.46	2,740	-	

FLOOD DATA

		1928-55	Sept. 21, 1938	10.96	12,400	118	Aug. 19, 1 p.m.	6.02	4,870	46.4
1117	Salmon River near East Hampton, Conn.									
1118	East Branch Eightmile River near North Lyme, Conn.	1937-55	Sept. 21, 1938	7.00	2,950	134	Aug. 19, 8:30 p.m.	3.49	467	21.2
1119	West Branch Eightmile River at North Plain, Conn.	1937-55	Sept. 21, 1938	-	1,810	97.3	Aug. 19, 6 a.m.	5.80	750	40.3
	MENUNKETESUCK RIVER BASIN									
1120	Menunketesuck River near Clinton, Conn.	1941-55	Sept. 11, 1954	8.51	1,800	138	Aug. 19, 4 p.m.	3.43	195	16.8
	QUINNIPIAC RIVER BASIN									
1121	Quinnipiac River at Wallingford, Conn.	1930-55	Sept. 21, 1938	9.55	5,230	48.0	Aug. 20, 5 a.m.	9.01	3,790	34.8
	HOUSATONIC RIVER BASIN									
1122	Housatonic River near Great Barrington, Mass.	1913-55	Jan. 1, 1949	12.08	12,200	43.6	Aug. 19, 5:30 p.m.	9.65	6,060	21.6
1123	Blackberry River at Canaan, Conn.	1949-55	Nov. 26, 1950 Dec. 31, 1948	9.37 12.0	2,550	52.9	Aug. 19, 7:30 a.m.	13.01	14,200A	295
1124	Housatonic River at Falls Village, Conn.	1912-55	Jan. 1, 1949	b22.9	23,900	37.8	Aug. 19	b22.8	22,700BD	35.9
1125	Salmon Creek near Lime Rock, Conn.	---	---	-	-	-	About Aug. 19	-	6,300B	209
1126	Birdseye Brook near Cornwall, Conn.	---	---	-	-	-	About Aug. 19	-	1,300A	335
1127	Furnace Brook at Cornwall Bridge, Conn.	---	---	-	-	-	About Aug. 19	-	4,060C	301
1128	Tenmile River near Gaylordsville, Conn.	1929-55	Sept. 22, 1938	12.77	12,500	61.3	Aug. 19	b14.9	17,400	85.3
1129*	Housatonic River at Gaylordsville, Conn.	1900-44 1940-55	Jan. 1, 1949 Sept. 22, 1938	14.85 b14.5	32,300 37,000	32.5 37.2	Aug. 19, 5 p.m.	18.58	51,800	52.1
1130	West Aspetuck River near Merryall, Conn.	---	---	-	-	-	About Aug. 19	-	1,830A	110
1131	Still River at Danbury, Conn.	---	---	-	-	-	About Aug. 19	-	2,770A	72.3
1132	Still River near Lanesville, Conn.	1931-55	Sept. 22, 1938	10.88	4,410	64.4	Aug. 19, 11 p.m.	11.20	3,900	56.9
1133	Bantam River at Litchfield, Conn.	---	---	-	-	-	About Aug. 19	-	10,100A	490
1134	Shepaug River near Roxbury, Conn.	1930-55	Sept. 21, 1938	b12.8	10,500	78.9	Aug. 19, 8 a.m.	b17.2	50,300A	378

See footnotes at end of table, p. 29.

Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No. on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood					
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi		
	HOUSATONIC RIVER BASIN--Continued												
135	Sprain Brook near Hotchkissville, Conn.	6.91	---	---	-	-	-	About Aug. 19	-	2,980A	431		
136	Nemawaug River near Woodbury, Conn.	25.6	---	---	-	-	-	About Aug. 19	-	12,300CE	480		
137*	Pomperaug River at Southbury, Conn.	75.3	1932-55	Sept. 21, 1938	16.0	7,420	98.5	Aug. 19, 6:30 a.m.	21.8	29,400A	390		
138	Transylvania Brook near Southbury, Conn.	2.45	---	---	-	-	-	About Aug. 19	-	839A	342		
139	Housatonic River at Stevenson, Conn.	1,545	1928-55	Mar. 12, 1936	23.5	69,500	45.0	Aug. 19, 11 p.m.	23.42	69,300	44.9		
140	West Branch Naugatuck River near West Torrington, Conn.	24.2	---	---	-	-	-	About Aug. 19	-	11,900D	492		
141	East Branch Naugatuck River near Torrington, Conn.	10.2	---	---	-	-	-	About Aug. 19	-	6,210A	609		
142*	Naugatuck River near Thomaston, Conn.	71.9	1930-55	Dec. 31, 1948	12.03	10,200	142	Aug. 19, 5:30 a.m.	24.0	41,600A	579		
143	Leadmine Brook near Thomaston, Conn.	24.0	1930-55	Sept. 17, 1934	11.2	3,080	128	Aug. 19, 5 a.m.	15.2	10,400B	433		
144	Branch Brook near Thomaston, Conn.	21.0	---	---	-	-	-	About Aug. 19	-	10,300C	490		
145	Naugatuck River near Waterbury, Conn.	138	---	---	-	-	-	About Aug. 19	-	75,900	550		
146	Hancock Brook near Waterbury, Conn.	12.9	---	---	-	-	-	About Aug. 19	-	4,870A	378		
147	Steel Brook at Oakville, Conn.	12.9	---	---	-	-	-	About Aug. 19	-	5,890C	457		
148	Mad River at Waterbury, Conn.	18.0	---	---	-	-	-	About Aug. 19	-	2,070D	115		
149	Hop Brook near Naugatuck, Conn.	16.5	---	---	-	-	-	About Aug. 19	-	2,650C	161		

FLOOD DATA

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		1919-24, 1928-55	1928-55	Dec. 31, 1948	12. 40	28, 500	116	Aug. 19	b25. 7	106, 000A	431
150	Naugatuck River near Naugatuck, Conn.		246								
	SAUGATUCK RIVER BASIN										
151	Saugatuck River near Westport, Conn.	1932-55	77.5	Mar. 12, 1936	11.30	5,310	68.5	Aug. 19, 10:30 a. m.	8.04	2,530	32.6
	STREAMS ON LONG ISLAND										
152	Cedar Swamp Creek at Glen Cove, N. Y.	1938-55	r11	Feb. 7, 1941	4.99	782	-	Aug. 12, 1:15 a. m.	5.623	1,040	-
153	Mill Neck Creek at Mill Neck, N. Y.	1937-55	r11.5	Sept. 15, 1944	-	104	-	Aug. 12, 3 a. m.	1.578	135	-
154	Carlills River at Babylon, N. Y.	1944-55	r35	Sept. 11, 1954	L495	106	-	Aug. 12, 11 p. m.	L745	132	-
155	Massapequa Creek at Massapequa, N. Y.	1938-55	r38	Jan. 7, 1944	L616	151	-	Aug. 12, 7:30 p. m.	L791	180	-
156	East Meadow Brook at Freeport, N. Y.	1937-55	r31	Feb. 15, 1944	2.192	297	-	Aug. 12, 9:45 a. m.	3.84	r355	-
157	Pines Brook at Malverne, N. Y.	1937-55	r10	Sept. 11, 1954	r2.56	r133	-	Aug. 12, 7 a. m.	2.759	191	-
	HUDSON RIVER BASIN										
158	Batavia Kill at Hensonville, N. Y.	---	13.5	---	-	-	-	Aug. 13	-	5,520	409
159	Nauvo Stream at Windham, N. Y.	---	3.88	---	-	-	-	Aug. 13	-	1,700	438
160	Batavia Kill near Ashland, N. Y.	---	51.2	Dec. 11, 1952	-	7,090	138	Aug. 13	(a)	-	-
161	Schoharie Creek at Prattsville, N. Y.	1907-55	236	Sept. 21, 1938 Nov. 25, 1950	b115.6 115.50	- 49,500	- 210	Aug. 13, 4:45 p. m. Aug. 18, 3 p. m.	13.83 12.27	20,700 15,700	87.7 66.5
163	Durham Kill near Oak Hill, N. Y.	--	5.82	---	-	-	-	Aug. 13	-	2,850	491
164	Catskill Creek at Oak Hill, N. Y.	1929-55	98	Nov. 25, 1950	14.08	12,500	128	Aug. 18, 1:15 p. m.	7.77	2,790	28.5
165	Bashbish Creek at Copake Falls, N. Y.	---	15.8	---	-	-	-	Aug. 19	-	r10,800	684
166	Esopus Creek at Coldbrook, N. Y.	1914-55	192	Mar. 30, 1951	20.70	59,600	310	Aug. 19, 2:30 a. m.	12.30	13,600	70.8
167	Rondout Creek near Lowes Corners, N. Y.	1937-55	38.5	July 22, 1938 Mar. 30, 1951	18.2 b19.60	7,600	197	Aug. 18, 11:45 p. m.	8.02	5,640	146
168	Chestnut Creek at Grahamsville, N. Y.	1938-55	20.9	Nov. 25, 1950	t 4.27	3,800	182	Aug. 18, 11 p. m.	4.68	3,800	182
169*	Rondout Creek near Lackawack, N. Y.	1906-55	100	Aug. 26, 1928	-	26,700	287	Aug. 19, 1:15 a. m.	5.76	u2,360A	u421
170	Sandburg Creek at Spring Glen, N. Y.	---	27.3	June 1, 1952	-	1,850	67.8	Aug. 19	-	3,210	118
171	West Branch Beer Kill near Ellenville, N. Y.	---	19.7	---	-	-	-	Aug. 19	-	3,110A	158

See footnotes at end of table, p. 29.

Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
	HUDSON RIVER BASIN--Continued										
172	Fantline Kill at Ellenville, N. Y.	2.46	---	---	-	-	-	Aug. 19	-	1,410A	573
173	Stony Kill near Granite, N. Y.	6.32	--	---	-	-	-	Aug. 19	-	3,520	557
174	Peters Kill near Accord, N. Y.	5.53	---	---	-	-	-	Aug. 19	-	2,550	461
175*	Rondout Creek at Rosendale, N. Y.	386	1926-55	Aug. 27, 1928	21.9	27,300	70.7	Aug. 19, about 6 a.m.	23.93	u30,900B	u106
176	Clove River at Clove Acres outlet, at Sussex, N. J.	19.7	---	---	-	-	-	Aug. 19	-	5,780	293
177	Wallkill River near Unionville, N. Y.	144	1937-55	Dec. 31, 1948	11.4	5,000	34.7	Aug. 19, 9 p.m.	13.35	6,880	47.8
178	Rutgers Creek at Gardnerville, N. Y.	59.7	1943-55	Dec. 31, 1948	8.88	3,600	60.3	Aug. 19, about 9 a.m.	12.38	8,490A	142
179	Pochuck Creek near Pine Island, N. Y.	98.0	1937-55	Sept. 22, 1938	7.80	2,070	21.1	Aug. 20, 7 a.m.	8.43	2,870B	29.3
180	Quaker Creek at Florida, N. Y.	9.74	1937-55	Sept. 21, 1938	6.0	1,050	108	Aug. 19, 4:15 a.m.	5.27	619	63.6
181	Wallkill River at Pellets Island Mountain, N. Y.	385	1920-55	Mar. 14, 1936	25.0	12,400	32.2	Aug. 21, 9:30 a.m.	21.76	10,100	26.2
182	Wallkill River near Philipsburg, N. Y.	419	1936-55	Dec. 31, 1948 Mar. 13, 1936	9.94 11.3	7,380	17.6	Aug. 21, 1 p.m.	11.33	9,200	22.0
183	Shawangunk Kill at Ganahgote, N. Y.	147	---	June 1, 1952	-	10,500	71.4	Aug. 19	-	15,700	107
184*	Wallkill River at Gardiner, N. Y.	711	1924-55	Mar. 7, 1945 June 1, 1952	18.83 14.88	21,200	29.8	Aug. 19, 10:30 a.m.	19.77	30,600	43.0
185*	Wappinger Creek near Wappingers Falls, N. Y.	182	1928-55	Sept. 22, 1938	18.02	15,900	87.4	Aug. 19, about 3 p.m.	18.60	18,600CE	102
186	Fishkill Creek at Beacon, N. Y.	186	1944-55	Jan. 25, 1953	7.28	3,220	17.3	Aug. 20, 4 a.m.	12.13	8,800	47.3
187	Woodbury Creek near Mountainville, N. Y.	17.5	---	---	-	-	-	Aug. 19	-	1,520A	86.9

FLOOD DATA

198	Moodna Creek at Firthcliffe, N. Y.	162	---	---	---	-	-	Aug. 19	-	11,000	67.9
	HACKENSACK RIVER BASIN										
198	Hackensack River at Rivervale, N. J.	58.0	1941-55	Apr. 1, 1951	5.70	1,350	23.3	Aug. 19, 7 p.m.	4.27	900	15.5
199	Pascack Brook at Westwood, N. J.	29.6	1934-55	July 23, 1945	6.76	1,610	54.4	Aug. 19, 7 p.m.	6.07	r1,150	38.9
199	Hackensack River at New Milford, N. J.	113	1921-55	Mar. 31, 1951	6.14	3,660	32.4	Aug. 19, 1 p.m.	4.40	2,230	19.7
	PASSAIC RIVER BASIN										
192	Passaic River near Millington, N. J.	55.4	1903-6, 1921-55	Mar. 8, 1904	17.50	2,000	36.1	Aug. 19, 2-4 p.m.	7.88	977	17.6
193	Passaic River near Chatham, N. J.	100	1903-11, 1937-55	Jan. 9, 1905	18.3	r3,000	30.0	Aug. 14, 2 p.m. Aug. 19, 5 a.m.	6.31 b6.31	1,390 1,390	13.9 13.8
194	Rockaway River above reservoir at Boonton, N. J.	116	1937-55	June 2, 1952	6.62	3,250	28.0	Aug. 19, 7:30 p.m.	5.43	2,190	18.9
195	Whippany River at Morristown, N. J.	29.4	1921-55	Aug. 26, 1928 Mar. 12, 1936 Mar. 15, 1940	7.30 - -	1,500 1,500 1,500	51.0 51.0 51.0	Aug. 19, 9:30 a.m.	5.61	1,160	39.5
196	Greenwood Lake at Awosting, N. J.	27.1	1898- 1903, 1907-55	Oct. 9-14, 1903	r14.25	-	-	Aug. 19	b12.05	-	-
197	Wanaque River at Awosting, N. J.	27.1	1919-55	Mar. 31, 1951	5.44	1,190	43.9	Aug. 19	b5.61	1,180	43.5
198	Wanaque River at Monks, N. J.	40.4	1935-55	Mar. 31, 1951	b3.85	2,660	65.8	Aug. 19	b4.1	r3,400	84.2
199	Ringwood Creek near Wanaque, N. J.	19.1	1934-55	Mar. 31, 1951	b3.74	1,150	60.2	Aug. 19, 8:30 a.m.	3.61	924	48.4
200	Cupsaw Brook near Wanaque, N. J.	4.38	1934-55	Mar. 11, 1936	2.94	536	122	Aug. 19, 6:30 a.m.	2.40	442	101
201	Blue Mine Brook near Wanaque, N. J.	1.71	1934-55	Mar. 30, 1951	2.15	458	268	Aug. 19, 5 a.m.	1.38	156	91.2
202	Ramapo River near Mahwah, N. J.	116	1903-6, 1922-55	Oct. 9, 1903	19.8	r12,400	105	Aug. 19, 1:30 p.m.	11.38	r7,100	60.2
203	Ramapo River at Pompton Lakes, N. J.	160	1921-55	Mar. 12, 1936	3.56	12,300	76.9	Aug. 19, 6-7 p.m.	3.56	r8,570	53.6
204	Saddle River at Ridgewood, N. J.	r21.4	1954-55	---	-	-	-	Aug. 13, 2 p.m. Aug. 19, 10 a.m.	7.80 8.88	r1,100 r1,500	51.4 70.1

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Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No. on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
PASSAIC RIVER BASIN--Continued											
205	Hobokus Brook at Hobokus, N. J.	r16.5	1954-55	---	-	-	-	Aug. 13, 10 a. m. Aug. 19, 6:30 a. m.	3.49 4.71	r700 r1,400	42.4 84.8
206	Saddle River at Lodi, N. J.	54.6	1923-55	July 23, 1945	b10.00	3,500	64.1	Aug. 19, 10 p. m.	6.47	2,200	40.3
RARITAN RIVER BASIN											
207	South Branch Raritan River near High Bridge, N. J.	65.3	1919-55	Mar. 15, 1940	11.78	5,160	69.0	Aug. 19, 9 a. m.	10.48	2,780	42.6
208	South Branch Raritan River at Clinton, N. J.	112	---	---	-	-	-	Aug. 19	-	8,080D	72.1
209	Capepaulin Creek at Lansdowne, N. J.	13.7	---	---	-	-	-	Aug. 18	-	7,230	528
210*	South Branch Raritan River at Stanton, N. J.	147	1903-6, 1919-55	Mar. 15, 1940 July 19, 1945	12.2	10,900	74.1	Aug. 19, 2 a. m.	13.22	18,000AB	122
211	Prescott Brook near Stanton, N. J.	8.37	---	---	-	-	-	Aug. 18	-	2,010	240
212	Walnut Brook near Flemington, N. J.	2.24	1936-55	July 18, 1945	3.30	645	288	Aug. 18, 12 p. m.	3.02	443	198
213	Neshanic River at Reaville, N. J.	25.7	1930-55	July 18, 1945	b12.33	5,940	231	Aug. 19, 1 a. m.	b11.90	8,830	344
214	North Branch Raritan River near Far Hills, N. J.	26.2	1922-55	Mar. 15, 1940	5.85	3,410	130	Aug. 19, 3:30 p. m.	4.95	r1,700	64.5
215	Lamington (Black) River near Pottersville, N. J.	32.8	1921-55	Mar. 15, 1940	v5.34	v2,630	80.2	Aug. 13, 4:30 p. m. Aug. 18, 10 p. m.	5.24 4.71	2,480 1,770	75.6 54.0
216	North Branch Raritan River near Raritan, N. J.	190	1923-55	Sept. 21, 1938	12.16	16,500	86.8	Aug. 13, 12:30 p. m. Aug. 19, 7 a. m.	b12.70 o13.59	- 20,700	- 109
217	Raritan River at Manville, N. J.	490	1903-7, 1921-55	Sept. 22, 1938	b20.42	-	-	Aug. 19, 4 p. m.	b22.06	33,300	68.0
218	Stony Brook at Princeton, N. J.	r44.0	1953-55	Dec. 14, 1953	b8.66	-	-	Aug. 13, 10:30 a. m.	11.90	r4,600	105

FLOOD DATA

	1926-55	Sept. 21, 1938	b4.20	-	-	-	Aug. 13, 4 p. m. Aug. 19, 10 a. m.	b5.02 4.53
219 Millstone River at Lake Carnegie, N. J.	159							
220 Millstone River at Blackwells Mills, N. J.	258	1921-55	Sept. 21, 1938	b15.29	-	-		
221 Raritan River at Bound Brook, N. J.	779	1903-8, 1945-55	Sept. 22, 1938	b16.3	-	-	Aug. 14, 1 a. m. Aug. 19, 8 p. m.	12.42 12.14
222 Green Brook at Plainfield, N. J.	9.75	1938-55	July 23, 1938	5.82	2,890	296	Aug. 13, 8 a. m. Aug. 19, 3 a. m.	4.32 3.30
223 Lawrence Brook at Farrington Dam, N. J.	34.4	1927-55	Sept. 21, 1938	26.18	2,660	77.3	Aug. 17, 10:30 a. m.	25.78
224 South River at Old Bridge, N. J.	94.6	1939-55	Sept. 15, 1944	11.71	4,250	44.9	Aug. 13, 7 p. m.	11.27
225 Delaware River Basin								
226 Callicoon Creek at Callicoon, N. Y.	111	1940-55	Aug. 17, 1947	9.68	16,000	144	Aug. 19, 2 a. m.	7.11
227 Tenmile River at Tusten, N. Y.	45.0	1946-55	Nov. 26, 1950	6.05	1,870	41.6	Aug. 19, 3 a. m.	9.08
227* Delaware River above Lackawaxen River, near Barryville, N. Y.	2,023	1940-55	May 23, 1942	13.19	105,000	51.9	Aug. 19, about 3:30 a. m.	26.40
228 West Branch Lackawaxen River at Prompton, Pa.	59.7	1944-55	Apr. 5, 1947 Nov. 25, 1950 May 23, 1942	8.45 8.42 b16.7	5,230 5,230 -	87.6 87.6 -	Aug. 18, 11 p. m.	9.24
229 Dyberry Creek at Dyberry, Pa.	63.2	1943-55	July 10, 1952 May 23, 1942	14.6 b15.86	v15,500	245	Aug. 18, 11:30 p. m.	13.78
230 Lackawaxen River near Honesdale, Pa.	164	1948-55	July 10, 1952 May 1942	14.2 24.5	12,400 r 34,000	75.6 207	Aug. 18, 11:30 p. m.	15.52
231* Middle Creek near Hawley, Pa.	78.4	1944-55	July 10, 1952 May 23, 1942	14.17 r18	6,970 -	88.9 -	Aug. 19, 1 a. m.	17.87
232* Lackawaxen River at Hawley, Pa.	518	1908-19, 1938-55	May 23, 1942	20.1	50,000	172	Aug. 19, 2. a. m.	20.6
233 Wallenpaupack Creek at South Sterling, Pa.	14.3	---	May 1942	-	y10,600	-	Aug. 19, about 1 a. m.	-
234 Angels Creek at Angels, Pa.	1.33	---	---	-	-	-	Aug. 18	-
235 East Branch Wallenpaupack, Creek at Greentown, Pa.	33.9	---	---	-	-	-	Aug. 19, about 12:30 a. m.	-

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Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No. on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
DELAWARE RIVER BASIN--Continued											
236	West Branch Wallenpaupack Creek near Sterling, Pa.	52.4	---	May 1942	-	27,720	-	Aug. 18	-	14,000A	267
237	Butternut Creek near Sterling, Pa.	5.03	---	---	-	-	-	Aug. 18-18	-	3,520A	700
238	Wallenpaupack Creek at Wilsonville, Pa.	228	1913-22 1925-55	---	-	-	-	Aug. 19, 11 p. m. to Aug. 21, 11 p. m.	23.45	22,900	-
239	Shohola Creek at Lords Valley, Pa.	25.2	---	---	-	-	-	Aug. 19	-	13,800A	548
240	Mongaup River near Mongaup, N. Y.	202	1939-55	Apr. 9, 1940	-	24,240	21.0	Aug. 19, 4:30 a. m.	11.22	10,800	53.5
241	Shingle Kill near Sparrow Bush, N. Y.	12.1	---	---	-	-	-	Aug. 19	-	6,590A	545
242*	Delaware River at Port Jervis, N. Y.	3,076	1904-55	May 23, 1942 Oct. 10, 1903	17.76 23.1	140,000 205,000	45.5 66.6	Aug. 19, about 5:30 a. m.	23.91	233,000A	75.7
243*	Neversink River at Oakland Valley, N. Y.	227	1928-55	Nov. 26, 1950	12.62	23,300	105	Aug. 19, 2:30 a. m.	12.74	23,800	105
244	Gumaer Brook near Wurtsboro, N. Y.	6.92	---	---	-	-	-	Aug. 19	-	2,870A	415
245	Pine Kill near West Brookville, N. Y.	10.7	---	---	-	-	-	Aug. 19	-	2,640	247
246	Basher Kill at West Brookville, N. Y.	59.5	---	---	-	-	-	Aug. 19	-	4,040	67.9
247	Neversink River at Godeffroy, N. Y.	302	1937-55	Nov. 26, 1950	11.79	20,000	66.2	Aug. 19, 4 a. m.	12.49	233,000A	157
248*	Delaware River at Montague, N. J.	3,480	1940-55	May 23, 1942 Oct. 10, 1903	25.70 35.5	136,500	39.2	Aug. 19, 9 a. m.	35.15	-	-
249	Dingmans Creek at Dingmans Ferry, Pa.	15.2	---	---	-	-	-	Aug. 19	-	3,660B	241
250	Bush Kill near Shoemakers, Pa.	85.6	---	---	-	-	-	Aug. 19	-	19,500A	228
251	Saw Creek near Shoemakers, Pa.	29.9	---	---	-	-	-	Aug. 19	-	3,870A	129

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		1908-55	July 24, 1920	7.2	5,250	44.9	Aug. 19, 4 a. m.	13.95	23,400A	200
252*	Bush Kill at Shoemakers, Pa.	---	---	---	---	---	---	---	---	---
253	Big Flat Brook near Hainesville, N. J.	---	---	---	---	---	---	---	4,140	208
254*	Flat Brook near Flatbrookville, N. J.	1923-55	Apr. 6, 1952	7.24	3,630	55.8	Aug. 19, 11 a. m.	b12.58	9,550A	147
255	Middle Branch Brodhead Creek near Canadensis, Pa.	---	---	---	---	---	---	---	3,840BD	625
256	Paradise Creek near Paradise Valley, Pa.	---	---	---	---	---	---	---	8,870D	704
257	Brodhead Creek at Anglominck, Pa.	---	---	---	---	---	---	---	72,200A	582
258	McMichaels Creek near Stroudsburg, Pa.	1911-30	Mar. 12, 1936	b10.5	v3,480	53.3	Aug. 18	b14.1	5,740BE	87.9
259	Pocono Creek near Stroudsburg, Pa.	1911-10	Jan. 7, 1915 Feb. 26, 1918	6.52 7.1	2,410	63.9	Aug. 18	---	22,400A	594
260*	Brodhead Creek at Minisink Hills, Pa.	1950-55	Dec. 1, 1952	14.43	19,900	76.8	Aug. 19, 2 a. m.	b29.9	68,800A	266
261	Paulens Kill at Lafayette, N. J.	---	---	---	---	---	---	---	1,440	42.9
262	Culvers Brook at Culvers Pond near Branchville, N. J.	---	---	---	---	---	---	---	444	62.4
263	Culvers Brook at Branchville, N. J.	---	---	---	---	---	---	---	1,560	146
264	Dry Brook at Branchville, N. J.	---	---	---	---	---	---	---	1,790	373
265	Paulins Kill at Paulins Kill Lake Dam near Newton, N. J.	---	---	---	---	---	---	---	6,020	74.3
266	Trout Brook at Middleville, N. J.	---	---	---	---	---	---	---	899	163
267*	Paulins Kill at Blairstown, N. J.	1921-55	Sept. 22, 1938	7.56	4,480	35.6	Aug. 19, 12 m.	11.12	8,740A	69.4
268	Pequest River at Huntsville, N. J.	1939-55	July 20, 1945	4.68	596	19.0	Aug. 19, 12 p. m.	5.06	565	18.0
269	Pequest River at Pequest, N. J.	1921-55	Mar. 14, 1936	4.97	1,810	16.8	Aug. 19 11:30 a. m.	3.86	1,110	10.3
270	Beaver Brook near Belvidere, N. J.	1922-55	Mar. 12, 1936	5.76	1,510	41.7	Aug. 19, 8:30 p. m.	4.40	750	20.7
271*	Delaware River at Belvidere, N. J.	1922-55	Mar. 19, 1936 Oct. 10, 1903	25.0 b28.6	179,000 220,000	29.5 48.5	Aug. 15, 8 p. m.	30.21	247,000A	54.5
272*	Lehigh River at Stoddartsville, Pa.	1943-55	Dec. 4, 1950 May 22, 1942	8.59 12.03	v7,250 v15,700	79.1 171	Aug. 19, 4 a. m.	16.37	31,000A	348

See footnotes at end of table p. 29.

Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No. on pl.	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
	DELAWARE RIVER BASIN--Continued										
2273	Tobyhanna Creek near Tobyhanna, Pa.	7.6	---	---		-	-	Aug. 19, 3:30 a. m.	-	2,310D	304
2274	Tobyhanna Creek near Blakeslee, Pa.	118	---	May 23, 1942	-	27,070	59.9	Aug. 19	-	235,300A	299
2275*	Lehigh River at Tannery, Pa.	322	1914-55	May 22, 1942	16.51	29,600	91.9	Aug. 19, 5 a. m.	22.2	58,300A	181
2276	Dilldown Creek near Long Pond, Pa.	2.39	1948-55	July 10, 1952	3.195	281	118	Aug. 18, 7 p. m.	3.37	142	143
2277	Wild Creek at Hatchery, Pa.	16.8	1941-55	May 23, 1942	6.00	22,160	140	Aug. 18, 9:30 p. m.	5.59	1,830B	109
2278	Pohapoco Creek near Parryville, Pa.	109	1940-55	May 23, 1942	7.42	5,300	48.6	Aug. 18, 11:30 p. m.	6.77	5,250A	48.2
2279	Aquashicola Creek at Palmerton, Pa.	76.7	1938-55	July 10, 1945	13.63	11,700	153	Aug. 19, 3:30 a. m.	9.82	4,180	57.1
2280*	Lehigh River at Walnutport, Pa.	889	1946-55	Dec. 4, 1950 May 23, 1942	12.66 b20.6	46,000	51.7	Aug. 19, 6:30 a. m.	b17.68	77,800	87.5
2281	Little Lehigh Creek near Allentown, Pa.	80.8	1945-55	Aug. 18, 1946 July 9, 1935	5.14 8.5	1,300	16.1	Aug. 18, 9 p. m.	6.17	1,880	23.3
2282	Jordan Creek at Allentown, Pa.	75.8	1944-55	May 23, 1942	7.1	-	-	Aug. 19, 4:30 a. m.	b8.00	9,520A	126
2283	Monocacy Creek at Bethlehem, Pa.	44.5	1941-55	July 28, 1951 July 10, 1945	4.42 b8.74	419 5,200	9.42 117	Aug. 19, 5:30 a. m.	4.68	495	11.1
2284*	Lehigh River at Bethlehem, Pa.	1,279	1902-05 1909-55	May 23, 1942	b23.47	92,000	71.9	Aug. 19, 10 a. m.	23.38	91,300	71.4
2285	Musconetcong River at outlet of Lake Hopatcong, N. J.	25.6	1928-55	Mar. 19, 1936	3.17	534	20.9	Aug. 20, 5 a. m.	3.85	r 700	27.3
2286	Musconetcong River near Hackettstown, N. J.	70.0	1921-55	Mar. 12, 1936	15.88	1,410	20.4	Aug. 19, 4 p. m.	3.98	r 2,200	31.4
2287*	Musconetcong River near Bloomsbury, N. J.	143	1921-55	Mar. 15, 1940	7.55	v 5,760	40.3	Aug. 19, 9 a. m.	8.95	4,430A	31.0

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2285*	Delaware River at Riegelsville, N. J.	6, 328	1906-55	Mar. 19, 1936 Oct. 10, 1903	32.45 b35.9	210,000 r 275,000	33.2 43.5	Aug. 20, 1 a.m.	38.85	-
2286*	Tahickon Creek near Pipersville, Pa.	97.4	1935-55	Aug. 9, 1942	10.48	13,700	141	Aug. 16, 12 p.m.	11.26	16,000
2290*	Delaware River at Trenton, N. J.	6,780	1913-55	Mar. 19, 1936 Mar. 8, 1904 Oct. 11, 1903	16.66 b22.8 20.7	227,000 - 295,000	33.5 - 43.5	Aug. 20, 6-7 a.m.	20.83	r 329,000
2291*	Neshaminy Creek near Langhorne, Pa.	210	1934-55	July 23, 1938 Aug. 23, 1933	15.94 b17.3	24,800 30,000	118 143	Aug. 19, 9 a.m.	22.84	49,300A
2292	Schuylkill River at Pottsville, Pa.	53.4	1943-55	Nov. 25, 1950 May 1942	7.9 b8.8	4,800 6,170	89.9 116	Aug. 18, 8 p.m.	6.33	2,760
2293	Schuylkill River at Auburn, Pa.	160	1947-51	Nov. 25, 1950 May 1942	13.19 b15.5	9,630 -	60.2 -	Aug. 19	b10.80	6,520
2294*	Little Schuylkill River at Tamaqua, Pa.	42.9	1916-55	May 22, 1942	7.95	4,310	100	Aug. 18, 5:30 p.m.	b11.10	7,790B
2295	Little Schuylkill River at Dreherstown, Pa.	122	1947-51	Nov. 25, 1950 Dec. 4, 1950	10.96 11.02	10,300 10,300	84.4 84.4	Aug. 19	b14.76	18,200
2296	Schuylkill River at Berne, Pa.	355	1947-55	Dec. 4, 1950 May 1942	14.46 b15.0	24,000 26,800	68.2 75.8	Aug. 19, 1 a.m.	15.73	29,400
2297	Tulpehocken Creek near Reading, Pa.	211	1950-55	Sept. 1, 1952	8.65	v 7,680	36.4	Aug. 18, 11:30 p.m.	7.94	6,760
2298	Schuylkill River at Pottstown, Pa.	1,147	1927-55	May 13, 1942 Feb. 28, 1902	20.15 b21.0	50,800 53,900	44.3 47.0	Aug. 19, 1:30 p.m.	17.98	42,300
2299	Perkiomen Creek at Graterford, Pa.	279	1914-55	July 9, 1935	18.26	39,900	143	Aug. 19, 12:15 a.m.	14.08	24,400
300	Schuylkill River at Philadelphia, Pa.	1,893	1898- 1912, 1931-55	Mar. 1, 1902 Oct. 4, 1869	14.8 b17.0	98,000 135,000	51.8 71.3	Aug. 18, 6:30 a.m.	14.32	89,800
301	Ridley Creek at Maylan, Pa.	31.9	1931-53	Nov. 25, 1950	10.84	5,720	179	Aug. 18	b9.42	4,390
302	Chester Creek near Chester, Pa.	61.1	1931-55	Nov. 25, 1950	b16.21	v 14,400	236	Aug. 18, 9 p.m.	b13.57	9,380B
303	Brandywine Creek at Chadds Ford, Pa.	287	1911-53	Mar. 5, 1920	b15.0	17,200	59.9	Aug. 19, 2 a.m.	b14.64	16,400
304	SUSQUEHANNA RIVER BASIN Tunkhannock Creek at Dixon, Pa.	383	1914-55	Apr. 5, 1947	13.96	32,200	84.1	Aug. 19, 6 a.m.	7.92	8,080

See footnotes at end of table p. 29.

Table 2. --Summary of stages and discharges in the Northeast during the floods of August 1955--Continued

No. on pl. 1	Stream and place of determination	Drainage area (sq mi)	Period of record	Maximum flood previously known				Maximum during present flood			
				Date	Gage height (feet)	Discharge (cfs)	Cfs per sq mi	Date and hour	Gage height (feet)	Discharge (cfs)	Cfs per sq mi
	SUSQUEHANNA RIVER BASIN--Con.										
305	Lackawanna River at Archbald, Pa.	108	1940-55	May 22, 1942	10.58	9,510	88.1	Aug. 19, 1 a.m.	7.50	5,050	46.8
306	Roaring Brook at Dunmore, Pa.	49.4	---	---	-	-	-	Aug. 19, 1 a.m.	-	18,500D	374
307	Little Roaring Brook at Dunmore, Pa.	5.12	---	---	-	-	-	Aug. 18	-	601D	117
308	Spring Brook at Rockdale, Pa.	15.9	---	May 1942	-	2,120	133	Aug. 18-19	-	3,130D	197
309	Spring Brook near Rockdale, Pa.	37.0	---	May 1942	-	7,500	203	Aug. 19	-	9,280D	251
310	Spring Brook at intake Dam near Moosic, Pa.	43.1	---	May 1942	-	8,360	194	Aug. 19	-	10,500D	244
311	Spring Brook near Moosic, Pa.	50.7	---	---	-	-	-	Aug. 19	-	10,300A	203
312*	Lackawanna River at Old Forge, Pa.	332	1938-55	May 23, 1942	15.30	20,900	63.0	Aug. 19, 2 a.m.	20.05	31,000A	93.4
313	Susquehanna River at Wilkes-Barre, Pa.	9,960	1890-1955	Mar. 20, 1936	33.07	232,000	23.3	Aug. 19, 7:30 a.m.	12.84	52,500	5.27
314	Toby Creek at Luzerne, Pa.	32.4	1941-55	Dec. 30, 1942	-	-	-	Aug. 18, 7 p.m.	4.33	2,440	75.3
315	Solomon Creek at Wilkes-Barre, Pa.	15.7	1940-55	Aug. 17, 1947 Sept. 16, 1933	6.40 b11.4	-	-	Aug. 18, 7:30 p.m.	9.83	2,450C	157
316*	Wapwallopen Creek near Wapwallopen, Pa.	45.8	1919-55	July 22, 1952	8.96	2,980	65.1	Aug. 18, 11 p.m.	9.23	3,140	68.6
317	Nescopeck Creek near Nescopeck, Pa.	161	---	---	-	-	-	Aug. 18-19	-	13,400B	83.2
318	Fishing Creek near Bloomsburg, Pa.	274	1938-55	Mar. 31, 1940 Mar. 18, 1936	b12.08 11.86	18,100 17,600	66.1 64.2	Aug. 19, 4 a.m.	8.54	7,980	29.1

- a Based on contributing area.
- b From floodmarks.
- c Affected by failure of Horseshoe Dam on Mill River.
- d No flow from Mansfield Hollow Reservoir (drainage area, 159 sq mi); unit rate adjusted for effective drainage area.
- e Drainage area, 68.0 sq mi at a site used in 1938.
- f Affected by failure of Glenecho Dam upstream.
- g Affected by failure of dam or dams upstream.
- h Small controlled flow from Quabbin Reservoir (drainage area, 186 sq mi).
- i Site and datum then in use.
- j Controlled release from Knightville flood-control reservoir.
- k Ice jam.
- m From 189 sq mi; 162 sq mi above Knightville flood-control dam contributed negligible discharge.
- n Affected by storage in Borden Brook and Cobble Mountain Reservoirs.
- o Affected by storage in Congamond Lakes.
- p Affected by storage and/or diversion in reservoirs upstream.
- q No flow from Otis Reservoir; unit rate adjusted for effective drainage area, 74.8 sq mi.
- r Approximately.
- s About 2.7 ft higher than in 1952.
- t Some flow bypassed gage; discharge computed on basis of peak flow at station and slope-area determination of bypass water.
- u Essentially no flow from Rondout Reservoir (drainage area 94.4 sq mi); unit rate adjusted for effective drainage area.
- v Revised.
- w Essentially no flow from Pepacton Reservoir; unit rate adjusted for effective drainage area, 1,652 sq mi.
- x Excluding drainage area of Wallenpaupack Creek, flow from which normally is diverted around station.
- y At a site about 10 miles downstream (drainage area, 75.4 sq mi).
- z At a site about 2 miles downstream (drainage area, 68.9 sq mi).
- aa Head over top of roller gates; furnished by Pennsylvania Power and Light Co.
- ab Affected by storage in Lake Wallenpaupack.
- ac Affected by storage in Toronto, Cliff Lake, and Swinging Bridge Reservoirs.
- ad Essentially no flow from Neversink Reservoir (drainage area, 91.8 sq mi); unit rate adjusted for effective drainage area.
- ae At a site 0.3 mile downstream (drainage area, 118 sq mi).

In figures 4 and 5, the unit discharge (cubic feet per second per square mile) has been plotted against drainage area (square miles) for all stations listed in the summary of stages and discharges (table 2). These graphs, show the interrelation of the peak discharges at the many observation points. An excellent idea of the upper limiting parameter of the plotted points may be obtained from the graphs, and they serve as a basis for comparison of the data for the present flood with those for other floods. The reference numbers used in table 2 and on plate 1 are shown alongside the highest plotted points for identity.

Gaging-Station Records

Continuous records are collected at the regular gaging stations that show both stage and discharge at any moment and their variations during any length of time. It is thus possible to plot graphs of discharge in flood periods, like those shown in figures 6, 7, and 8. These graphs are for data at selected gaging stations in the August flood area, chosen for their geographic distribution. The peak discharge of the highest previous flood at each station has been shown as a point of comparison.

The graphs show the different flow characteristics of the streams and the relative effect on them of the Connie and Diane storms. The Connie storm had very little effect on some streams, but it had large effect on others. For most stations, the hydrograph in the Connie storm period (around August 12 and 13) was drawn from daily mean discharges. This has the effect of attenuating the rise at that time as compared with the more detailed graph for the later and greater peak. The area under the curve, however, essentially represents the volume of flow.

One of the more interesting graphs is that for Charles River in figure 6. Charles River rose to an intermediate peak and leveled for a while. This was followed by a slower rise to a higher peak, followed by a quite slow recession. The action demonstrates the streamflow characteristic of the basin which is formed by sandy soils that have high rainfall absorption, flat terrain and its slow runoff characteristics, and a sizable area of ponds. It is quite in contrast with the hydrograph for a number of the other stations where the water rose quickly and then subsided almost as quickly.

In order to plot detailed graphs of stage and discharge, and to present other information for the floods, tabulations of data are presented in the following pages for 51 gaging stations in the flood area. This is a selection from a total of about 200 gaging stations in that area. The number shown in parentheses with the name of each gaging station is the same as that used for that station in the summary table 2 and on the map showing the location of all sites (plate 1).

For each gaging station the tabulations include a station description and two tables. The descriptive section contains a description of the location, how the record was obtained, maxima during the present and during previous floods, and other information. The first table lists the daily mean discharge during the flood period, usually August 1-31. The second table shows stage and discharge in sufficient detail to plot accurate hydrographs. In most cases, the daily mean discharge can be computed from the detailed data; in cases where this cannot be done, because of minor variations of no hydrologic import, the fact is noted.

Other, and more detailed, data are available in the basic records held by the Geological Survey, and these may be studied at the appropriate field office.

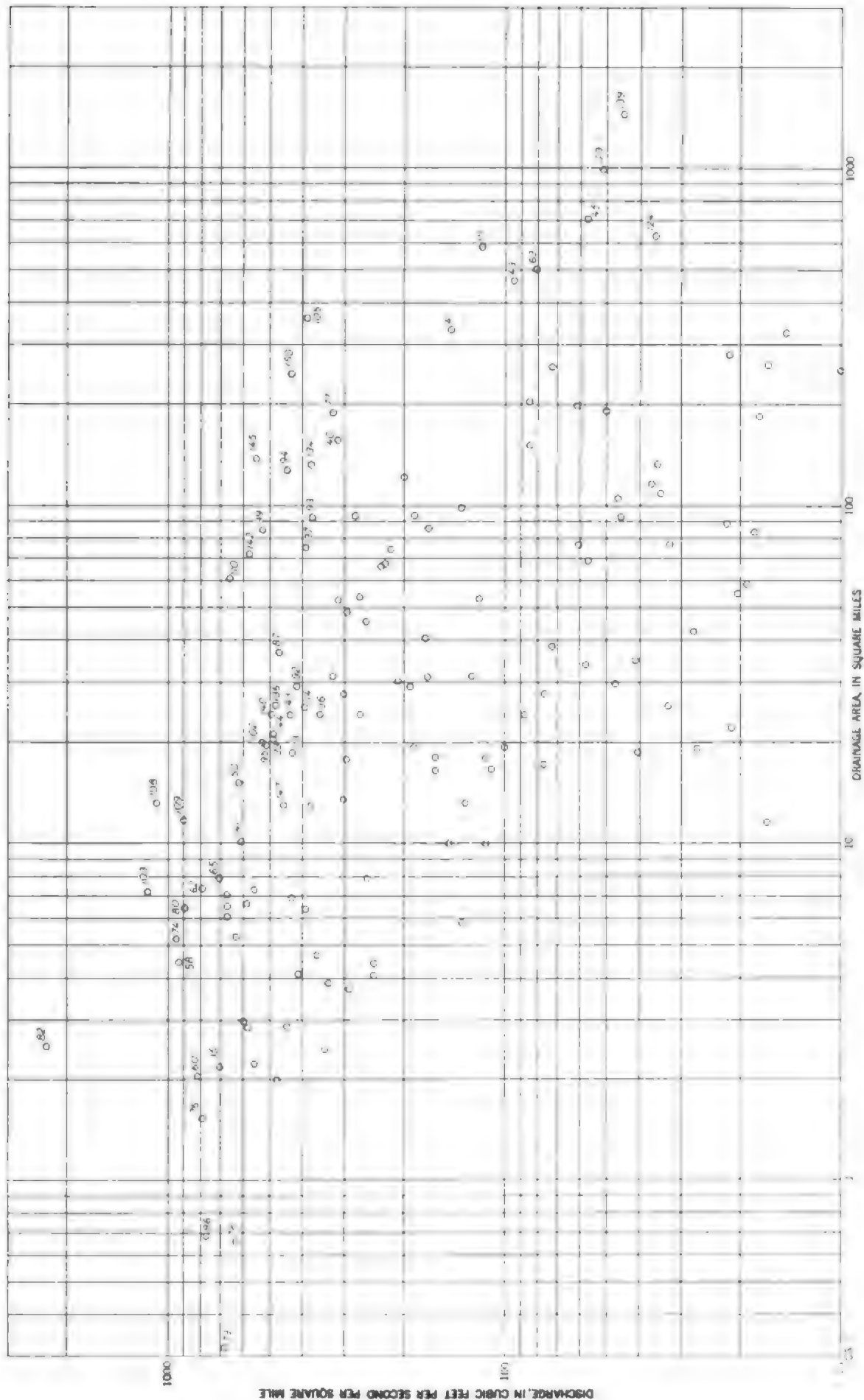
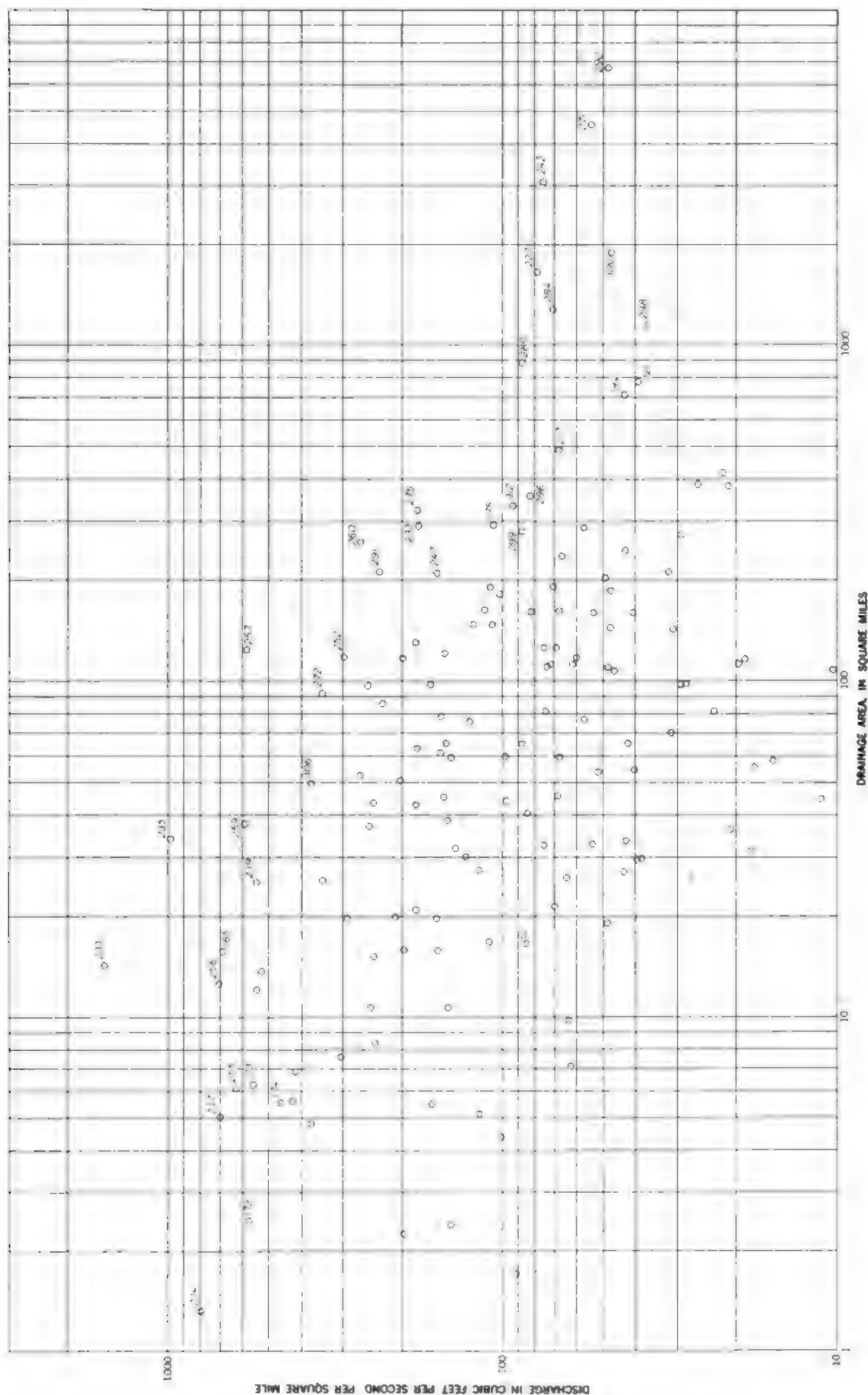


Figure 4. --Graph of relation of unit discharge and size of drainage area, east of Hudson River, floods of August 18-19, 1955.



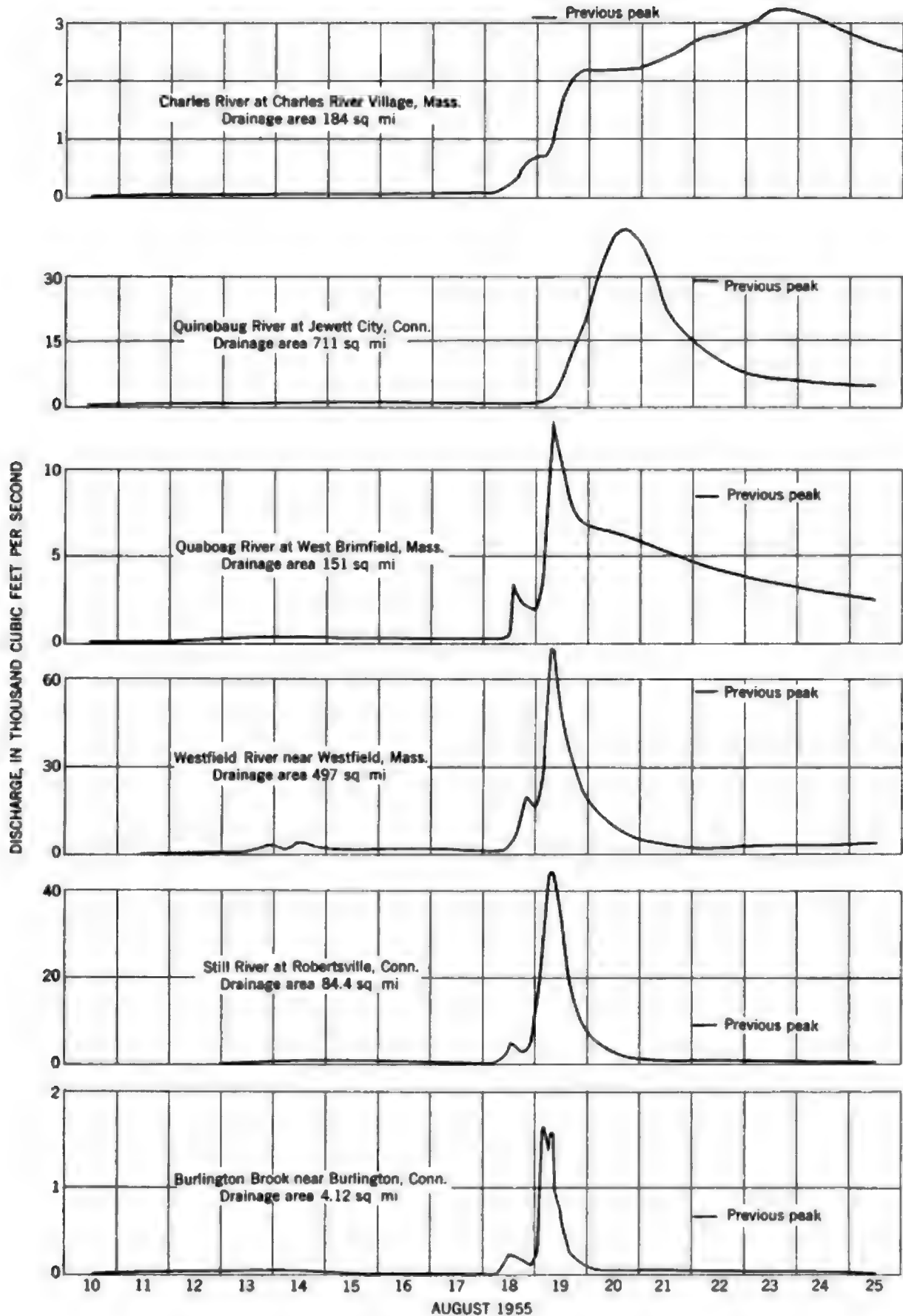


Figure 6. --Graphs of discharge at selected gaging stations, August 10-25.

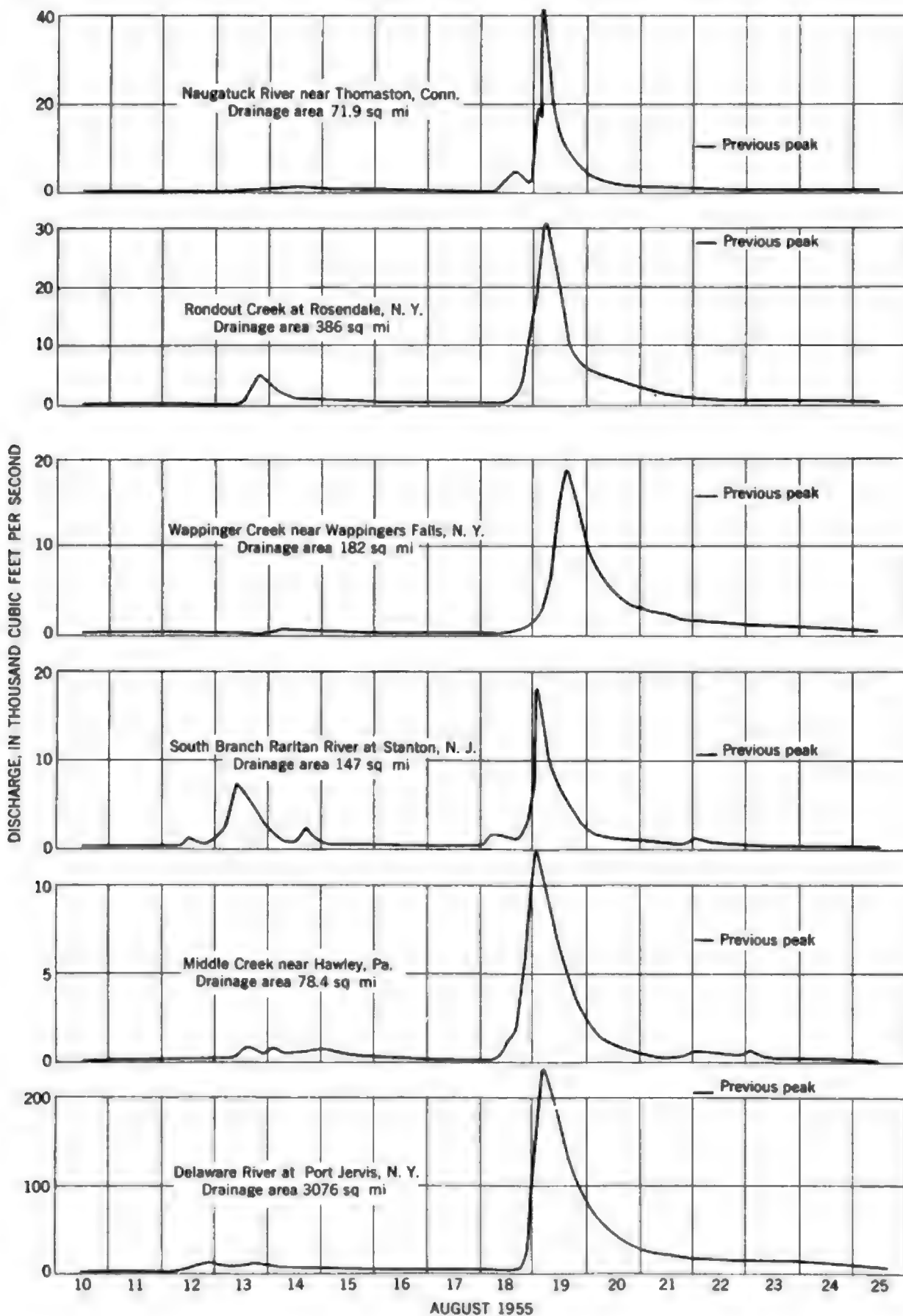


Figure 7. --Graphs of discharge at selected gaging stations, August 10-25.

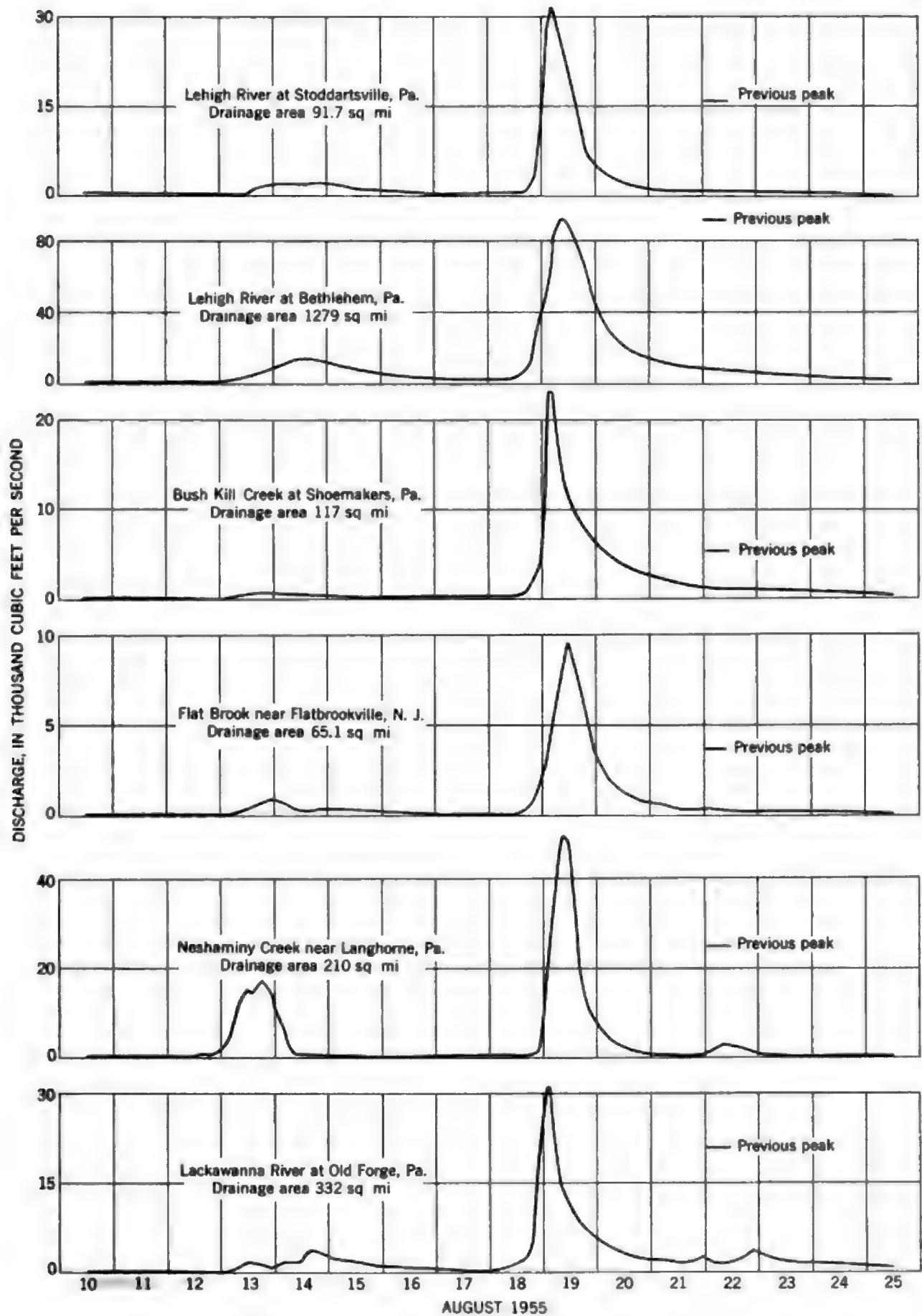


Figure 8. --Graphs of discharge at selected gaging stations, August 10-25.

NORTHEASTERN FLOODS OF AUGUST 1955

(2) Concord River below River Meadow Brook, at Lowell, Mass.

Location.--Lat 42°33'12", long 71°18'09", on right bank 300 ft downstream from Rogers Street Bridge at Lowell, Middlesex County, 0.5 mile downstream from River Meadow Brook, and 0.8 mile upstream from mouth. Datum of gage is 67.41 ft above mean sea level, datum of 1929.

Drainage area.--Total above gage, 405 sq mi; net above gage, 312 sq mi (diversion as needed from 92.6 sq mi for use of Boston metropolitan district).

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from grass at times.

Maxima.--August 1955: Discharge, 4,540 cfs 8 to 10 p.m. Aug. 23 (gage height, 8.97 ft).

1936 to July 1955: Discharge, 3,790 cfs July 29, 1936 (gage height, 8.11 ft).

Remarks.--Discharge includes water wasted from 92.6 sq mi in basins of Sudbury River and Lake Cochituate. Water diverted above station for use of city of Lowell. Medium and low flows regulated by mills above station.

Mean discharge, in cubic feet per second

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
Aug. 1	165	Aug. 9	91	Aug. 17	185	Aug. 25	4,230	Sept. 2	2,220	Sept. 10	1,110
2	140	10	80	18	232	26	3,970	3	2,020	11	1,340
3	135	11	86	19	605	27	3,720	4	1,850	12	988
4	102	12	114	20	1,200	28	3,480	5	1,720	13	920
5	110	13	166	21	2,240	29	3,190	6	1,590	14	861
6	92	14	HOW	22	3,850	30	2,910	7	1,460	15	805
7	88	15	225	23	4,490	31	2,600	8	1,320		
8	115	16	198	24	4,430	Sept. 1	2,440	9	1,220		

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 18			Aug. 20--Con.			Aug. 22--Con.			Aug. 23--Con.		
11 p.m.---	5.18	275	12 m.-----	6.59	1,190	12-----	8.82	4,280	11-----	8.93	4,490
			3 p.m.-----	6.73	1,310						
Aug. 19			12-----	6.95	1,510	Aug. 23			Aug. 24		
3 a.m.---	5.23	297				2 a.m.---	8.84	4,720	12 m.-----	8.89	4,440
6-----	5.39	375	Aug. 21			4-----	9.99	4,410	12 p.m.-----	8.92	4,560
9-----	5.45	408	6 a.m.-----	7.27	1,840	5-----	8.92	4,440			
12 m.---	5.84	644	12 m.-----	7.28	2,190	6-----	8.95	4,520	Aug. 25		
3 p.m.---	6.05	784	6 p.m.-----	7.35	2,600	10-----	8.96	4,520	12 m.-----	8.73	4,230
6-----	6.12	840	12-----	8.19	3,170	12 m.---	8.96	4,520	12 p.m.-----	8.63	4,100
9-----	6.19	890	Aug. 22			2 p.m.---	8.96	4,530			
12-----	6.25	955	6 a.m.-----	8.40	3,840	4-----	8.95	4,520	Aug. 26		
Aug. 20			12 m.---	8.60	3,960	6-----	8.94	4,520	12 m.-----	8.54	3,970
6 a.m.---	6.43	1,070	6 p.m.---	8.71	4,070	8-----	9.37	4,540	12 p.m.-----	8.43	3,840
						10-----	9.37	4,540			

(3) Charles River at Charles River Village, Mass.

Location.--Lat 42°15'23", long 71°15'42", on right bank 0.25 mile downstream from highway bridge at Charles River Village, Norfolk County, 0.6 mile downstream from Noanet Brook, and 1.3 miles northeast of Dover. Datum of gage is 69.76 ft above mean sea level, datum of 1929.

Drainage area.--184 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--August 1955: Discharge, 3,220 cfs 2 to 3 p.m. Aug. 23 (gage height, 9.24 ft).

1937 to July 1955: Discharge, 3,110 cfs July 27, 1936 (gage height, 9.00 ft).

Flood in March 1936 reached a discharge of 3,170 cfs, by computation of flow over dam at site a quarter of a mile above station.

Remarks.--Diversion above station for municipal supply of Wellesley and Needham. Occasional diversion from Sudbury River basin.

Mean discharge, in cubic feet per second

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
Aug. 1	47	Aug. 8	30	Aug. 15	74	Aug. 22	2,800	Aug. 29	1,650	Sept. 5	750
2	42	9	31	16	77	23	3,130	30	1,440	6	680
3	42	10	34	17	94	24	3,020	31	1,280	7	621
4	42	11	38	18	322	25	2,660	Sept. 1	1,150	8	563
5	42	12	54	19	1,450	26	2,370	2	1,020	9	514
6	31	13	69	20	2,200	27	2,140	3	915		
7	30	14	63	21	2,430	28	1,900	4	829		

(3) Charles River at Charles River Village, Mass.--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 19--Con.			Aug. 20			Aug. 25--Con.		
12 p.m.---	0.96	111	12 m.---	6.22	1,580	8 a.m.---	8.59	2,740	8 p.m.---	8.27	2,580
Aug. 18			1 p.m.---	6.43	1,660	12 m.---	8.71	2,810	12-----	8.12	2,510
3 a.m.---	.94	104	2-----	6.61	1,740	6 p.m.---	8.82	2,870	Aug. 26		
6-----	.93	101	3-----	6.80	1,830	12-----	8.89	2,910	8 a.m.---	7.98	2,440
9-----	1.21	195	4-----	6.96	1,920	Aug. 23			12 m.---	7.81	2,360
12 m.---	1.35	234	5-----	7.11	2,010	4 a.m.---	9.00	3,000	6 p.m.---	7.66	2,300
2 p.m.---	1.68	317	6-----	7.20	2,060	5-----	9.15	3,150	12-----	7.49	2,220
4-----	2.12	423	7-----	7.29	2,110	12 m.---	9.22	3,200	Aug. 27		
6-----	2.57	531	8-----	7.36	2,150	2 p.m.---	9.24	3,220	8 a.m.---	7.33	2,150
8-----	2.87	603	9-----	7.42	2,180	3-----	9.24	3,220	12 m.---	7.34	2,150
10-----	3.13	668	10-----	7.46	2,200	4-----	9.23	3,210	6 p.m.---	7.26	2,120
12-----	3.24	695	11-----	7.48	2,210	5-----	9.22	3,200	12-----	7.10	2,040
Aug. 19			12-----	7.50	2,220	8-----	9.20	3,190	Aug. 28		
1 a.m.---	3.26	700	Aug. 20			10-----	9.22	3,200	12 m.---	6.76	1,900
2-----	3.26	700	6 a.m.---	7.47	2,210	12-----	9.20	3,180	12 p.m.---	6.43	1,770
3-----	3.25	697	12 m.---	7.42	2,190	Aug. 24			Aug. 29		
4-----	3.24	694	6 p.m.---	7.43	2,190	8 a.m.---	9.15	3,130	12 m.---	6.13	1,650
5-----	3.27	703	12 p.m.---	7.52	2,230	12 m.---	9.02	3,020	12 p.m.---	5.84	1,540
6-----	3.35	722	Aug. 21			6 p.m.---	8.88	2,910	Aug. 30		
7-----	3.68	806	6 a.m.---	7.71	2,320	12-----	8.74	2,820	12 m.---	5.56	1,430
8-----	4.26	949	12 m.---	7.93	2,420	Aug. 25			12 p.m.---	5.30	1,340
9-----	4.76	1,090	6 p.m.---	8.14	2,520	8 a.m.---	8.59	2,740			
10-----	5.31	1,268	12-----	8.41	2,660	12 m.---	8.43	2,660			
11-----	5.83	1,430									

(16) Blackstone River at Woonsocket, R. I.

Location.--Lat 42°00'22", long 71°30'13", on right bank at Woonsocket, Providence County, 50 ft downstream from Peters River. Datum of gage is 107.42 ft above mean sea level, datum of 1929.

Drainage area.--416 sq mi.

Gage-height record.--water-stage recorder graph except for periods 8:30 p.m. Aug. 19 to 1 p.m. Aug. 22 and 6:30 p.m. Aug. 23 to 8 a.m. Aug. 26. One measurement of stage from a temporary reference point obtained Aug. 20. Graph for Aug. 24, 25 drawn on basis of range line and trend of recorded graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 15,000 cfs and extended to peak stage on basis of slope-area determination at gage height 21.8 ft. Discharge for period 9 p.m. Aug. 19 to noon Aug. 22 estimated on basis of 1 measurement of stage, floodmarks, and records for Blackstone River at Northbridge, Mass. Backwater from grass at times.

Maxima.--August 1955: Discharge, 52,900 cfs 10 p.m. Aug. 19 (gage height, 21.8 ft, from floodmarks), affected by failure of Horseshoe Dam on Mill River.

1929 to July 1955: Discharge, 15,100 cfs July 24, 1938 (gage height, 14.43 ft).

Remarks.--Discharge includes flow diverted from Nashua River basin to Blackstone River basin for supply of Worcester, Mass., and flow diverted around station in Hamlet Trench. Flood flow affected by reservoirs and by dam failures above station. Low and medium flows regulated by powerplants above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	142	7	128	12	211	17	318	22	6,430	27	2,190
2	162	8	150	13	457	18	686	23	4,410	28	1,910
3	135	9	185	14	525	19	11,200	24	4,260	29	1,710
4	125	10	150	15	405	20	25,900	25	3,500	30	1,460
5	110	11	155	16	348	21	12,300	26	2,750	31	1,380
6	127										

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 19--Con.			Aug. 20--Con.			Aug. 25--Con.		
12 p.m.---	2.48	279	3-----	4.83	1,650	4-----	---	28,000	6-----	8.75	4,300
Aug. 18			4-----	4.84	1,900	5-----	---	28,700	8-----	---	4,400
1 a.m.---	2.50	291	5-----	5.70	2,910	6-----	---	28,000	10-----	---	4,470
2-----	2.51	294	6-----	6.09	4,400	7-----	---	12,100	12-----	---	4,550
3-----	2.51	294	7-----	7.51	5,800	12-----	---	17,300	Aug. 24		
4-----	2.50	291	8-----	8.09	6,010	Aug. 21			8 a.m.---	8.88	4,460
5-----	2.48	285	9-----	8.55	6,580	8 a.m.---	---	14,700	12 m.---	8.73	4,280
6-----	2.84	407	10-----	9.30	7,400	12 m.---	---	11,800	6 p.m.---	8.57	4,080
7-----	3.12	550	11-----	8.63	8,180	2 p.m.---	---	9,940	12-----	8.40	3,690
8-----	2.76	377	12 m.---	10.06	8,940	12-----	---	9,470	Aug. 25		
9-----	2.88	425	1 p.m.---	10.64	9,440	Aug. 22			6 a.m.---	8.94	5,690
10-----	2.88	425	2-----	11.47	10,600	8 a.m.---	---	7,120	12 m.---	8.83	5,510
11-----	2.88	425	3-----	12.17	11,700	10 p.m.---	---	8,310	6 p.m.---	8.98	5,810
12 m.---	3.41	683	4-----	12.77	12,600	Aug. 23			12-----	8.75	5,390
1-----	3.22	580	5-----	13.47	13,600	8 a.m.---	---	8,900	Aug. 26		
2-----	3.80	939	6-----	14.21	14,700	10 p.m.---	---	7,840	6 a.m.---	8.86	5,990
3-----	3.52	751	7-----	14.89	15,300	8 p.m.---	---	7,650	12 m.---	8.58	5,730
4-----	3.55	770	8-----	15.37	16,000	12-----	---	7,650	6 p.m.---	8.35	5,410
5-----	3.60	803	9-----	---	16,100	Aug. 24			12-----	8.11	5,470
6-----	3.61	810	10-----	21.8	31,300	8 a.m.---	---	7,001	Aug. 27		
7-----	4.22	1,230	11-----	---	31,500	10 p.m.---	---	6,880	6 a.m.---	8.02	5,300
8-----	4.36	1,340	12-----	---	32,000	Aug. 25			12 m.---	4.80	1,170
9-----	4.19	1,210	Aug. 20			8 a.m.---	---	6,880	6 p.m.---	4.77	3,070
10-----	4.20	1,220	2 a.m.---	---	24,400	10 p.m.---	---	6,880	12-----	4.75	2,800
11-----	4.23	1,240	4-----	---	24,500	8 a.m.---	---	6,880			
12-----	4.33	1,320	6-----	---	27,800	10 p.m.---	---	6,880			
Aug. 19			8-----	---	28,100	12 m.---	---	6,710			
1 a.m.---	4.41	1,400	10-----	---	28,100	2 p.m.---	---	6,710			
2-----	4.50	1,510	12 m.---	---	28,300	4-----	---	6,710			

(20) Willimantic River near South Coventry, Conn.

Location.--Lat 41°45'02", long 72°15'58", on left bank 700 ft upstream from highway bridge, 1 mile downstream from Mill Brook, 2.4 miles southwest of South Coventry, Tolland County, 2.8 miles upstream from Hop River, and at mile 6.5. Datum of gage is 239.05 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Drainage area.--121 sq mi.

Gage-height record.--Water-stage recorder graph except for period 1:30 to 10 p.m. Aug. 19. Graph for this period drawn on basis of floodmark and time of peak.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,600 cfs and by computation of flow over dam at gage height 12.19 ft and contracted-opening determination at gage height 18.66 ft.

Maxima.--August 1955: Discharge, 24,200 cfs 4 p.m. Aug. 19 (gage height, 18.66 ft, from floodmarks).

1931 to July 1955: Discharge, 15,500 cfs Sept. 21, 1938 (gage height, 18.06 ft, from floodmarks), by computation of flow over dam at Eagleville above station, prior to washing out, adjusted for flow from intervening area.

Remarks.--Flood flow affected briefly when storage was released by washout of dam at Eagleville.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	24	7	36	12	147	17	186	22	1,030	27	408
2	25	8	73	13	735	18	337	23	924	28	392
3	27	9	60	14	1,235	19	12,100	24	930	29	336
4	29	10	53	15	628	20	6,650	25	580	30	288
5	30	11	42	16	510	21	1,850	26	468	31	284
6	31										

Runoff, in inches.....9.26

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 10			Aug. 14			Aug. 17--Cont.			Aug. 21		
10 p.m.--	2.47	42	3 a.m.--	2.40	1,400	10-----	3.38	147	1 a.m.--	13.70	11,400
			4-----	2.80	1,500	11-----	3.7	178	2-----	12.01	7,480
Aug. 11			5-----	3.42	1,540	12-----	4.0	178	3-----	10.74	4,890
12 p.m.--	2.42	39	6 p.m.--	4.48	1,100	Aug. 18			4 p.m.--	9.32	3,700
			7-----	5.01	1,010	1 a.m.--	3.32	144	5-----	9.36	5,060
Aug. 12			8-----	5.65	47	2 a.m.--	3.18	144	6-----	4.62	2,620
2 a.m.--	2.42	28	Aug. 15			3-----	3.16	144	Aug. 21		
4-----	2.54	35	8 a.m.--	3.11	200	4-----	4.27	164	8 a.m.--	4.33	2,150
6-----	2.71	74	9 p.m.--	4.75	300	5-----	4.41	183	9-----	7.57	1,920
8-----	2.87	94	10-----	4.82	417	6-----	4.62	200	12 p.m.--	7.32	1,490
12 m.--	3.11	144	Aug. 16			7-----	4.8	272	12-----	6.35	1,270
4 p.m.--	3.25	148	2 a.m.--	4.31	240	8-----	5.10	288			
6-----	3.64	240	3-----	5.3	200	Aug. 19			Aug. 22		
10-----	3.86	300	4-----	4.76	200	1 a.m.--	4.4	200	8 a.m.--	6.73	1,160
12-----	4.38	370	5-----	5.82	200	2 p.m.--	4.8	200	9-----	6.42	800
Aug. 13			6-----	5.78	200	3-----	5.72	1,700	10-----	6.26	900
2 a.m.--	4.18	300	7-----	5.74	270	4-----	9.72	1,400	11-----	6.30	920
4-----	4.38	430	8-----	5.87	250	5-----	10.70	6,900	12-----	6.17	855
6-----	4.52	450	9-----	5.57	220	6-----	11.78	8,000	Aug. 23		
8-----	4.66	520	Aug. 17			7-----	13.74	11,800	4 a.m.--	6.08	785
12 m.--	4.77	561	8 a.m.--	3.34	170	8-----	17.60	21,500	5-----	6.10	920
3 p.m.--	4.92	580	9-----	3.20	100	9-----	18.00	24,000	6-----	6.62	935
4-----	5.01	571	10-----	3.16	100	10-----	18.20	25,100	7-----	6.47	1,000
6-----	7.05	1,420	11-----	4.38	100	11-----	17.30	20,000	8 p.m.--	6.45	1,010
12-----	7.30	1,500	12-----	4.38	100	12-----	18.4	19,400	9-----	6.43	925
								16,100	10-----	6.33	455

(30) Quinebaug River at Westville, Mass.

Location.--Lat 42°04'23", long 72°04'28", on right bank 350 ft upstream from highway bridge, 0.45 mile downstream from Breakneck Brook, 0.6 mile west of Westville, Worcester County, and 1-3/4 miles west of Southbridge. Datum of gage is 537.66 ft above mean sea level, unadjusted (levels by Corps of Engineers).

Drainage area.--93.8 sq mi.

Gage-height record.--Water-stage recorder graph except for period 1 to 12 p.m. Aug. 19, when graph was drawn on basis of floodmarks. Stage graph adjusted for intake drawdown during period 6:30 a.m. Aug. 21 to 6 a.m. Aug. 22 and for intake lag during period Aug. 26-31.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,300 cfs and extended to peak stage on basis of slope-area determination of peak flow.

Maxima.--August 1955: Discharge, 17,500 cfs 6:30 p.m. Aug. 19 (gage height, 16.11 ft, from floodmarks).

1939 to July 1955: Discharge, 1,500 cfs Mar. 22, 1948 (gage height, 6.93 ft).

Flood in September 1938 reached a discharge of 6,400 cfs, by slope-area determination.

Remarks.--Flood flow affected by dam failures and by reservoirs above station. Medium and low flows regulated by mills and reservoirs.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	34	7	47	12	99	17	228	22	1,970	27	439
2	43	8	65	13	282	18	605	23	1,230	28	438
3	45	9	63	14	374	19	11,400	24	999	29	390
4	45	10	54	15	433	20	6,650	25	774	30	365
5	41	11	48	16	330	21	3,800	26	611	31	344
6	33										

Runoff, in inches.....13.63

(30) Quinebaug River at Westville, Mass.--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 19--Con.			Aug. 20--Con.			Aug. 22		
12 p.m.	3.75	214	6 a.m.	11.42	8,560	1 a.m.	11.40	9,200	4 a.m.	7.89	2,270
Aug. 18			7-----	12.21	8,430	2-----	13.42	9,340	5-----	7.56	2,010
1 a.m.	3.68	201	8-----	13.21	9,420	3-----	14.22	9,520	12 m.	7.2	1,870
2-----	3.62	191	9-----	13.77	10,300	4-----	15.14	9,280	4 p.m.	7.03	1,640
3-----	3.63	192	10-----	14.11	11,400	5-----	12.35	9,300	5-----	6.80	1,500
4-----	3.64	194	11-----	14.41	12,100	6-----	12.39	9,320	12-----	6.62	1,390
5-----	3.66	194	12 m.	14.47	12,300	7 p.m.	12.45	7,100			
6-----	3.68	201	1 p.m.	14.54	12,400	8-----	12.11	7,390	Aug. 23		
7-----	3.80	224	2-----	15.17	14,700	9-----	11.70	8,140	4 a.m.	6.49	1,310
8-----	3.87	238	3-----	15.42	15,100	10-----	11.44	8,700	5-----	6.42	1,270
9-----	3.98	262	4-----	15.44	15,000	11-----	11.12	8,420	12 m.	6.34	1,230
10-----	4.11	295	5-----	15.87	16,400	12-----	10.44	8,420	4 p.m.	6.25	1,180
11-----	4.38	365	6-----	16.09	17,400				5-----	6.17	1,140
12 m.	4.79	490	6:30-----	16.11	17,300	Aug. 21			12-----	6.10	1,110
1 p.m.	5.53	752	7-----	17.08	17,400	1 a.m.	10.57	8,040			
2-----	5.87	892	8-----	18.09	17,400	2 a.m.	10.15	4,760	Aug. 24		
3-----	6.65	1,290	9-----	19.70	18,700	3-----	10.11	4,400	1 a.m.	5.29	1,080
4-----	7.22	1,620	10-----	19.50	18,400	4-----	9.47	4,180	12 m.	5.59	1,040
5-----	7.71	1,990	11-----	19.37	18,000	5-----	9.47	3,900	4 p.m.	5.70	940
6-----	8.25	2,410	12-----	19.01	17,000	6-----	9.44	3,700	12-----	5.60	875
7-----	8.73	2,870				7 p.m.	9.24	3,480			
Aug. 19			Aug. 20			8-----	9.01	3,290	Aug. 25		
1 a.m.	9.22	3,380	1 a.m.	14.71	13,100	9-----	8.32	3,000	1 a.m.	5.47	816
2-----	9.61	3,520	2-----	14.05	12,000	10-----	8.31	2,800	12 m.	5.30	759
3-----	10.02	4,320	3-----	14.31	11,900	11-----	8.44	2,740	4 p.m.	5.25	729
4-----	10.45	4,690	4-----	14.00	11,200	12-----	8.28	2,590	12-----	5.16	689
5-----	11.04	5,700	5-----	13.47	10,800						
			6-----	13.75	10,500						

(39) French River at Webster, Mass.

Location.--Lat 42°03'03", long 71°53'08", on right bank 50 ft upstream from Pleasant Street Bridge at Webster, Worcester County, and 1.1 miles upstream from Potash Brook. Datum of gage is 406.74 ft above mean sea level, datum of 1929.

Drainage area.--85.3 sq mi.

Gage-height record.--Water-stage recorder graph except for period 1:15 p.m. Aug. 19 to 4:30 p.m. Aug. 22. Gage heights for period 1:15 p.m. to 6 p.m. Aug. 19 are from graph based on floodmarks and readings from reference points and for period 4 p.m. Aug. 21 to noon Aug. 22 from graph based on engineer's tape-gage reading.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,400 cfs and extended to peak stage on basis of computation of peak flow over dam. Discharge for period 8 p.m. Aug. 19 to noon Aug. 21 estimated on basis of records for Quinebaug River at Westville and Little River at Buffumville. Backwater from debris at times.

Maxima.--August 1955: Discharge, 14,400 cfs 6 p.m. Aug. 19 (gage height, 26.05 ft, from floodmarks).

1948 to July 1955: Discharge, 2,320 cfs Sept. 12, 1954 (gage height, 11.64 ft).

Flood of Mar. 19, 1936, reached a discharge of 4,700 cfs, by computation of flow over dam.

Remarks.--Flood flow affected by dam failures and by reservoirs above station. Low and medium flows regulated by Lake Chaubunagungamaug (estimated usable capacity, 207,000,000 cu ft) and other reservoirs above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	39	7	14	12	43	17	125	22	1,290	27	618
2	42	8	50	13	48	18	222	23	937	28	540
3	29	9	44	14	96	19	6,170	24	782	29	464
4	24	10	49	15	97	20	5,640	25	730	30	435
5	44	11	36	16	131	21	2,180	26	720	31	422
6	9.6										

Runoff, in inches. 9.62

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 18--Con.			Aug. 20			Aug. 23--Con.		
12 p.m.	4.90	46	11-----	6.10	369	1 a.m.	7.900		8-----	9.31	948
Aug. 18			12-----	6.20	397	2-----	6,300		12 m.	9.22	912
1 a.m.	4.94	99	Aug. 19			3-----	5,200		4 p.m.	9.18	900
2-----	4.99	104	1 a.m.	6.30	425	4-----	4,300		8-----	9.22	912
3-----	5.01	109	2-----	6.56	498	5-----	5,600		12-----	9.14	885
4-----	5.03	112	3-----	7.15	663	6-----	3,100				
5-----	5.05	115	4-----	7.65	813	Aug. 21			Aug. 24		
6-----	5.34	167	5-----	8.87	1,210	1 a.m.	2,700		1 a.m.	9.07	858
7-----	5.63	239	6-----	9.41	1,400	2-----	2,350		8-----	8.98	828
8-----	5.55	218	7-----	10.09	1,670	3-----	2,100		12 m.	8.85	783
9-----	5.48	199	8-----	10.75	1,930	4 p.m.	1,860		4 p.m.	8.75	747
10-----	5.45	192	9-----	11.57	2,280	8-----	1,710		8-----	8.62	702
11-----	5.63	239	10-----	12.57	2,780	12-----	10.85	1,580	12-----	8.50	666
12 m.	5.52	209	11-----	14.29	3,670						
1 p.m.	5.72	263	12 m.	16.39	4,920	Aug. 22			Aug. 25		
2-----	5.63	239	1 p.m.	19.22	7,230	1 a.m.	10.58	1,470	2 a.m.	8.45	649
3-----	5.62	236	2-----	20.00	7,900	2-----	10.34	1,370	3-----	8.40	635
4-----	5.50	204	3-----	20.85	8,660	3-----	10.12	1,280	4-----	8.38	629
5-----	5.73	266	4-----	21.77	9,570	4 p.m.	9.93	1,200	5-----	8.40	635
6-----	5.69	255	5-----	24.00	11,900	8-----	9.72	1,120	10-----	8.52	671
7-----	5.80	285	6-----	26.35	14,400	12-----	9.54	1,050	12 m.	8.69	726
8-----	5.86	302	7-----		13,000				2 p.m.	8.86	786
9-----	5.94	424	8-----		11,400	Aug. 23			4-----	8.96	819
10-----	6.01	344	10-----		10,000	1 a.m.	9.40	984	8-----	9.00	824
			12-----		10,000				10-----	8.94	813
									12-----	8.89	795

(47) Connecticut River at Montague City, Mass.

Location.--Lat 42°54'48", long 72°34'30", on left bank 75 ft downstream from New York, New Haven & Hartford Railroad bridge at Montague City, Franklin County, and 1,000 ft downstream from Deerfield River. Datum of gage is 99.87 ft above mean sea level, datum of 1929.

Drainage area.--7,865 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--August 1955: Discharge, 42,800 cfs 1 to 1:30 p.m. Aug. 14 (gage height, 19.75 ft).

1904 to July 1955: Discharge, 236,000 cfs Mar. 19, 1936 (gage height, 49.2 ft, from floodmarks), from rating curve extended above 160,000 cfs.

Remarks.--Flow regulated by powerplants and by First Connecticut and Second Connecticut Lakes, Lake Francis, Comerford Station Pond, and other reservoirs (combined usable capacity, about 27½ billion cu ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	2,780	7	501	12	9,720	17	17,600	22	10,800	27	5,920
2	3,420	8	1,010	13	16,800	18	20,100	23	9,610	28	3,640
3	2,000	9	2,460	14	39,400	19	33,400	24	10,800	29	7,300
4	1,930	10	2,980	15	33,300	20	26,000	25	11,500	30	7,340
5	1,940	11	6,000	16	18,800	21	13,500	26	10,400	31	7,540
6	601										

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 12			Aug. 14--Con.			Aug. 16--Con.			Aug. 19		
12 p.m.---	11.52	13,400	2-----	19.74	42,700	10-----	13.63	19,800	1 a.m.-----	14.74	23,500
Aug. 13			3-----	19.50	41,700	11-----	13.72	20,100	2-----	14.72	23,400
1 a.m.---	11.63	13,700	4-----	19.39	41,300	12 m.-----	13.65	19,900	3-----	14.73	23,500
2-----	11.04	12,000	5-----	19.47	41,600	2 p.m.-----	13.21	18,500	4-----	14.82	23,800
3-----	10.53	10,600	6-----	19.47	41,600	3-----	13.37	18,300	5-----	14.96	24,300
4-----	9.89	9,010	7-----	19.50	41,700	4-----	13.07	18,000	6-----	15.23	25,200
5-----	9.40	7,930	8-----	19.52	41,800	5-----	13.25	18,600	7-----	15.55	26,400
6-----	9.52	8,180	9-----	19.51	41,700	6-----	13.28	18,700	8-----	16.95	31,600
7-----	10.32	10,000	10-----	19.39	41,300	7-----	13.22	18,500	9-----	17.74	34,700
8-----	10.95	11,800	11-----	19.26	40,800	8-----	13.35	18,000	10-----	18.07	36,000
9-----	11.47	13,200	12-----	19.35	41,100	9-----	13.08	18,100	11-----	18.48	37,600
10-----	11.47	13,200				12-----			12 m.-----	18.66	38,300
11-----	11.13	12,300	Aug. 15			Aug. 17			1 p.m.-----	18.87	39,200
12 m.-----	11.85	14,400	1 a.m.-----	19.39	41,300	2 a.m.-----	13.08	18,100	2-----	19.21	40,500
1 p.m.-----	12.34	15,800	2-----	19.41	41,300	3-----	13.08	18,100	3-----	19.36	41,100
2-----	12.69	16,900	3-----	19.41	41,300	4-----	13.07	18,000	4-----	19.28	40,800
3-----	12.28	15,600	4-----	19.38	41,200	5-----	13.05	18,000	5-----	19.15	40,300
4-----	12.35	15,800	5-----	19.18	40,400	6-----	13.03	17,900	6-----	18.94	39,500
5-----	13.03	17,900	6-----	19.16	40,300	7-----	12.97	17,700	7-----	18.69	38,500
6-----	13.54	19,500	7-----	19.25	40,700	8-----	12.93	17,600	8-----	18.47	37,600
7-----	15.16	25,000	8-----	19.27	40,800	9-----	12.65	16,800	9-----	18.25	36,700
8-----	15.77	27,200	9-----	19.17	40,400	10-----	12.46	16,200	10-----	18.07	36,000
9-----	15.87	27,500	10-----	18.89	39,300	11-----	12.53	16,400	11-----	17.84	35,100
10-----	16.50	29,900	11-----	18.64	38,300	12-----	12.95	17,400	12-----	17.38	33,200
11-----	17.18	32,500	12 m.-----	18.40	37,300		12.94	17,600			
12-----	17.45	33,500	1 p.m.-----	17.39	33,300	Aug. 18			Aug. 20		
Aug. 14			2-----	16.97	31,700	2 a.m.-----	13.00	17,800	2 a.m.-----	16.77	30,900
1 a.m.---	17.62	34,200	3-----	17.05	32,000	3-----	12.99	17,800	3-----	16.33	29,300
2-----	17.76	34,700	4-----	16.73	30,800	4-----	12.99	17,800	4-----	15.94	27,800
3-----	17.67	34,400	5-----	16.18	28,700	5-----	12.96	17,700	5-----	15.58	26,500
4-----	17.59	34,100	6-----	15.17	25,000	6-----	12.96	17,700	6-----	15.43	25,900
5-----	18.03	35,800	7-----	14.54	22,800	7-----	12.97	17,700	7-----	15.59	26,500
6-----	18.45	37,500	8-----	14.19	21,600	8-----	13.01	17,800	8-----	15.60	26,600
7-----	18.65	38,300	9-----	13.84	20,500	9-----	13.14	18,200	9-----	15.44	26,000
8-----	18.78	38,800	10-----	13.76	20,200	10-----	13.76	20,200	10-----	15.24	25,300
9-----	18.94	39,500	11-----	13.67	19,900	11-----	14.27	21,900	11-----	15.06	24,600
10-----	19.10	40,100	12-----	13.60	19,700	12 p.m.-----	14.74	23,500	12-----	14.82	23,800
11-----	19.27	40,800	Aug. 16			1 a.m.-----	14.95	24,200	1 a.m.-----	14.84	23,900
12 m.-----	19.54	41,900	2 a.m.-----	13.45	19,200	2-----	14.74	23,500	2-----	14.74	23,500
1 p.m.---	19.74	42,800	3-----	13.36	19,000	3-----	14.92	24,100	3-----	14.25	21,800
1:30-----	19.75	42,800	4-----	13.27	18,700	4-----	14.81	23,800	4-----	15.87	30,600
			5-----	13.28	18,700	5-----			5-----		

NORTHEASTERN FLOODS OF AUGUST 1955

(55) Ware River at Gibbs Crossing, Mass.

Location.--Lat 42°14'07", long 72°16'45", on right bank half a mile upstream from Gibbs Crossing, Hampshire County, 1.5 miles upstream from Beaver Brook, and 2½ miles southwest of Ware. Datum of gage is 379.79 ft above mean sea level, datum of 1929.

Drainage area.--199 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,600 cfs and extended to peak stage on basis of contracted-opening determination at 12.83 ft and slope-area determination at 18.2 ft.

Backwater from grass at times.

Maxima.--August 1955: Discharge, 12,200 cfs 10 a.m. Aug. 19 (gage height, 12.33 ft).

1912 to July 1955: Discharge, 22,700 cfs Sept. 21, 1938 (gage height, 18.2 ft, from floodmarks), from slope-area determination.

Remarks.--Flood flow affected by diversion from 37 sq mi for supply of Boston metropolitan district. Regulation at low and medium flows by mills above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	78	7	28	12	87	17	199	22	1,000	27	685
2	57	8	75	13	166	18	1,550	23	1,260	28	625
3	22	9	27	14	565	19	8,080	24	1,160	29	553
4	21	10	61	15	553	20	5,060	25	812	30	436
5	21	11	31	16	376	21	1,930	26	842	31	407
6	21										

Runoff, in inches..... 5.99

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 17			Aug. 18--Con.			Aug. 19--Con.			Aug. 20--Con.		
11 p.m.	2.37	179	12	6.43	1,270	1	10.29	8,140	8	3.80	1,030
Aug. 18			Aug. 19			Aug. 20			12 m.	3.86	1,020
1 a.m.	2.51	175	1 a.m.	6.75	1,250	1 a.m.	8.40	7,480	12 m.	3.84	1,000
2	2.51	175	2	6.47	1,410	2	8.52	6,850	6 p.m.	3.77	948
3	2.50	172	3	6.71	1,650	3	8.50	6,800	8	3.73	918
4	2.50	172	4	7.17	4,180	4	8.51	5,760	10	3.73	918
5	2.49	168	5	8.33	5,180	5	8.11	5,250	12	3.77	948
6	2.42	169	6	9.70	7,340	6 m.	8.06	4,850	Aug. 21		
7	2.50	172	7	10.37	9,100	7 p.m.	7.58	4,390	8 a.m.	4.10	1,220
8	2.54	187	8	10.30	10,300	8	7.13	4,110	9	4.23	1,340
9	2.57	199	9	10.69	11,900	9	6.77	3,720	10	4.21	1,320
10	2.58	203	10	12.03	12,200	10	6.46	3,400	11 m.	4.18	1,290
11	2.66	239	11	12.78	11,100	11	6.44	3,140	5 p.m.	4.21	1,320
12 m.	2.96	380	12 m.	12.97	11,800	12	5.94	2,280	12	4.25	1,360
1 p.m.	3.66	829	1 p.m.	12.42	11,500	Aug. 21			Aug. 24		
2	4.32	1,950	2	12.27	11,500	4 a.m.	6.45	1,440	2 a.m.	4.24	1,350
3	5.76	4,710	3	12.14	11,500	5	5.10	2,140	4	4.13	1,250
4	6.25	7,190	4	11.67	10,200	6	4.50	1,970	6	4.11	1,230
5	6.44	7,350	5	11.91	10,700	7	4.50	1,850	8	4.18	1,290
6	6.57	7,510	6	11.77	9,700	8 p.m.	4.58	1,440	12 m.	4.06	1,190
7	6.64	7,580	7	11.93	9,700	9	4.34	1,440	5 p.m.	3.89	1,040
8	6.84	7,540	8	11.19	9,300	10	4.12	1,140	10	3.75	932
9	6.57	7,510	9	11.64	9,300	Aug. 22					
10	6.56	7,440	10	10.77	8,500	1 a.m.	3.79	950			
11	6.33	7,430	11	10.33	6,500						

(61) Quabog River at West Brimfield, Mass.

Location.--Lat 42°10'31", long 72°15'46", on left bank 15 ft upstream from site of former highway bridge at West Brimfield, Hampden County, 0.4 mile upstream from Blodgett Mill Brook, and 3½ miles northeast of Palmer. Datum of gage is 377.36 ft above mean sea level, datum of 1929.

Drainage area.--151 sq mi.

Gage-height record.--Water-stage recorder graph except for 8:15 to 9:15 a.m. Aug. 19; floodmark used to complete graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,700 cfs and extended to peak stage on basis of slope-area determinations at gage heights 11.8 and 14.79 ft.

Maxima.--August 1955: Discharge, 12,800 cfs 8:30 a.m. Aug. 19 (gage height, 14.79 ft, from floodmark in gage house).

1909 to July 1955: Discharge, 8,470 cfs Sept. 21, 1938 (gage height, 11.8 ft, from floodmarks), from slope-area determination.

Remarks.--Flood flow affected by natural storage. Slight diurnal regulation at low flow by mill above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	41	7	47	12	84	17	274	22	4,270	27	1,730
2	38	8	65	13	338	18	1,220	23	3,640	28	1,440
3	38	9	48	14	435	19	7,590	24	3,020	29	1,220
4	35	10	45	15	352	20	6,370	25	2,500	30	1,040
5	35	11	46	16	302	21	5,360	26	2,090	31	910
6	32										

Runoff, in inches..... 11.00

(61) Quabog River at West Brimfield, Mass.--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 18			Aug. 19--Con.			Aug. 20--Con.		
12 p.m.---	3.38	265	1 a.m.---	5.39	2,150	11-----	11.41	6,800	8-----	9.31	4,140
			2-----	6.10	2,100	12-----	11.41	6,700	9-----	9.40	4,070
			3-----	6.30	2,350				10-----	9.50	4,030
Aug. 18			4-----	6.77	2,700	Aug. 19			11-----	9.79	3,950
1 a.m.---	4.38	285	5-----	7.04	3,100	1 p.m.---	11.41	6,700	11-----	9.74	3,940
2-----	5.59	270	6-----	7.10	3,100		11.41	6,700			
3-----	5.41	279	7-----	7.10	3,100		11.41	6,700			
4-----	5.44	295	8-----	7.10	3,100		11.41	6,700	Aug. 21		
5-----	5.44	302	9-----	7.10	3,100		11.41	6,700	1 a.m.---	9.40	4,040
6-----	5.53	350	10-----	7.10	3,100		11.41	6,700	2-----	9.74	3,970
7-----	5.66	400	11-----	7.10	3,100		11.41	6,700	3 p.m.---	9.96	4,100
8-----	4.05	803	12-----	7.10	3,100		11.41	6,700	4-----	9.71	4,150
9-----	6.17	7,500					11.41	6,700			
10-----	7.35	3,300	1 p.m.---	7.10	3,100		11.41	6,700	Aug. 22		
11-----	6.43	3,710	2 p.m.---	7.10	3,100		11.41	6,700	1 a.m.---	9.45	4,200
12-----	6.59	2,490	3-----	7.10	3,100		11.41	6,700	2-----	9.77	4,150
1 p.m.---	6.39	2,480	4-----	7.10	3,100	1 m.---	11.41	6,700	3 p.m.---	9.99	4,200
2-----	6.36	2,430	5-----	7.10	3,100	2 p.m.---	11.41	6,700	4-----	9.79	4,060
3-----	6.16	2,280	6-----	7.10	3,100		11.41	6,700			
4-----	5.97	2,110	7-----	7.10	3,100		11.41	6,700	Aug. 23		
5-----	5.85	2,000	8-----	7.10	3,100		11.41	6,700	1 a.m.---	7.86	3,710
6-----	5.79	1,950	9-----	7.10	3,100		11.41	6,700	2-----	7.97	3,900
7-----	5.79	1,950	10-----	7.10	3,100		11.41	6,700	3 p.m.---	7.81	3,440
8-----	5.79	1,950					11.41	6,700	4-----	7.82	3,400

(68) Chicopee River at Indian Orchard, Mass.

Location.--Lat 42°09'38", long 72°30'52", on left bank 1,000 ft downstream from West Street Bridge at Indian Orchard, Hampden County, and 1.1 miles upstream from Fuller Brook. Altitude of gage is 125 ft (from topographic map).

Drainage area.--688 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 22,000 cfs and extended to peak stage on basis of computation of peak flow over dam. Backwater from grass at times.

Maxima.--August 1955: Discharge, 40,500 cfs 4 p.m. Aug. 19 (gage height, 22.14 ft).

1928 to July 1955: Discharge, 45,200 cfs Sept. 21, 1938, by computation of flow over dam.

Remarks.--Flood flow affected by Quabbin Reservoir (usable capacity, 55,700,000 cu ft) on Swift River, by diversion from Ware River, and by dam failures on small tributaries. Diversions from basin for Boston, Springfield, and Chicopee. Low and medium flows regulated by powerplants above station, by Quabbin Reservoir, and by smaller reservoirs.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	368	7	47	12	380	17	990	22	7,380	27	3,050
2	259	8	253	13	702	18	3,600	23	6,450	28	2,570
3	253	9	331	14	2,980	19	30,600	24	5,740	29	2,340
4	256	10	256	15	1,890	20	20,800	25	4,330	30	2,080
5	256	11	246	16	1,400	21	10,800	26	3,610	31	1,920
6	184										

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17 12 p.m.	5.85	912	Aug. 19--Con.			Aug. 20--Con.			Aug. 22--Con.		
			2 a.m.	12.92	11,500	12 p.m.	10.04	2,000	4 p.m.	10.56	7,020
			3	13.70	12,800	2 a.m.	10.04	2,000	5	10.56	7,020
Aug. 18			4	14.34	15,200	4	10.04	2,000	6	10.56	7,020
1 a.m.	5.76	823	5	15.20	17,600	6	10.04	2,000	7	10.56	7,020
2	5.56	470	6	16.04	21,700	7	10.04	2,000	8	10.56	7,020
3	5.35	470	7	16.85	22,400	8	10.04	2,000	9	10.56	7,020
4	5.49	552	8	17.80	24,400	9	10.04	2,000	10	10.56	7,020
5	5.49	552	9	18.41	24,400	10	10.04	2,000	11	10.56	7,020
6	5.56	602	10	19.01	24,400	11	10.04	2,000	12	10.56	7,020
7	6.50	1,530	11	19.85	24,400	12	10.04	2,000			
8	6.51	1,540	12	20.41	24,400						
9	6.22	1,230	1 p.m.</td <td>21.04</td> <td>24,400</td> <td>Aug. 21</td> <td></td> <td></td> <td>2 a.m.</td> <td>10.56</td> <td>7,020</td>	21.04	24,400	Aug. 21			2 a.m.	10.56	7,020
10	6.23	1,240	2	21.72	29,200	2 a.m.	10.56	7,020	3	10.56	7,020
11	6.35	1,350	3	22.06	40,200	4	10.56	7,020	4	10.56	7,020
12 m.	7.02	2,010	4	22.10	40,400	5	10.56	7,020	5	10.56	7,020
1 p.m.	6.72	1,730	5	22.14	40,500	6	10.56	7,020	6	10.56	7,020
2	6.70	1,710	6	22.14	40,500	7	10.56	7,020	7	10.56	7,020
3	7.42	2,410	7	22.14	40,500	8	10.56	7,020	8	10.56	7,020
4	7.86	2,900	8	21.06	40,500	9	10.56	7,020	9	10.56	7,020
5	8.56	3,890	9	21.25	40,500	10	10.56	7,020	10	10.56	7,020
6	9.03	4,280	10	22.06	40,500	11	10.56	7,020	11	10.56	7,020
7	10.14	5,760	11	22.14	40,500	12	10.56	7,020	12	10.56	7,020
8	10.87	6,890	12	22.14	40,500						
9	11.27	7,620									
10	11.65	8,430	Aug. 20			Aug. 22					
11	11.84	8,960	2 a.m.	18.12	24,400	2 a.m.	11.35	8,440			
12	12.15	9,600	3	18.12	24,400	4	11.35	8,440			
Aug. 19			4	17.50	24,400	6	11.35	8,440			
1 a.m.	12.52	10,500	5	20.99	22,000	7	11.35	8,440			
			6	20.42	21,200	8	11.35	8,440			
			7	21.04	24,400	9	11.35	8,440			
			8	21.72	29,200	10	11.35	8,440			
			9	22.06	40,200	11	11.35	8,440			
			10	22.10	40,400	12	11.35	8,440			
			11	22.14	40,500						
			12	22.14	40,500						

(71) Middle Branch Westfield River at Goss Heights, Mass.

Location.--Lat 42°15'31", long 72°52'23", on right bank at upstream side of highway bridge at Goss Heights, Hampshire County, 0.35 mile upstream from mouth and 1.7 miles north of Huntington. Datum of gage is 400.30 ft above mean sea level, datum of 1929.

Drainage area.--52.6 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,700 cfs and extended to peak stage on basis of slope-area determination at gage height 11.33 ft.

Maxima.--August 1955: Discharge, 16,500 cfs 4 a.m. Aug. 19 (gage height, 11.33 ft).

1910 to July 1955: Discharge, 19,900 cfs Sept. 21, 1938 (gage height, 10.61 ft), from rating curve extended above 3,200 cfs on basis of mean of two contracted-opening determinations of peak flow; maximum gage height, 13.87 ft Mar. 12, 1936 (ice jam).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	2.4	7	1.5	12	10	17	44	22	185	27	59
2	2.0	8	1.4	13	329	18	1,400	23	154	28	51
3	1.8	9	1.6	14	841	19	5,190	24	114	29	43
4	1.7	10	2.0	15	211	20	578	25	85	30	39
5	1.6	11	2.4	16	79	21	263	26	70	31	39
6	1.5										

Runoff, in inches:..... 6.93

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 14--Con.			Aug. 17--Con.			Aug. 19--Con.		
12 p.m.--	1.30	35	8-----	4.38	1,490	12-----	1.32	47	7-----	7.50	7,840
			9-----	4.17	1,340				8-----	7.51	8,650
Aug. 13			10-----	3.95	1,160	Aug. 18			9-----	6.75	6,140
6 a.m.--	1.47	55	11-----	3.73	1,010	6 a.m.--	1.30	45	10-----	6.81	6,280
9-----	1.59	72	12 m.-----	3.57	900	8-----	1.32	52	11-----	6.76	6,160
10-----	1.79	109	1 p.m.-----	3.44	814	9-----	1.70	91	12 m.-----	6.38	5,430
12 m.-----	2.05	173	2-----	3.28	715	10-----	1.79	103	1 p.m.-----	5.90	4,570
1 p.m.-----	2.25	247	3-----	3.17	652	11-----	2.38	403	2-----	5.45	3,800
2-----	2.81	465	4-----	3.09	605	12 m.-----	3.07	595	3-----	4.95	3,020
3-----	2.97	545	5-----	3.02	570	1 p.m.-----	5.00	2,050	4-----	4.60	2,510
4-----	2.98	550	6-----	2.89	535	2-----	7.00	4,740	5-----	4.32	2,150
5-----	3.05	585	7-----	2.99	555	3-----	7.15	5,060	6-----	4.36	1,840
6-----	3.26	706	8-----	2.95	535	4-----	6.52	3,960	7-----	3.81	1,560
7-----	3.52	864	10-----	2.80	460	5-----	6.35	3,250	8-----	3.66	1,410
8-----	3.47	932	12-----	2.65	393	6-----	5.63	2,740	9-----	3.50	1,260
9-----	3.50	730				7-----	5.25	2,290	10-----	3.36	1,150
10-----	3.12	522	Aug. 15			8-----	4.90	1,960	11-----	3.25	1,040
11-----	2.99	555	4 a.m.-----	2.42	294	9-----	4.52	1,750	12-----	3.17	879
12-----	2.87	495	8-----	2.25	234	10-----	4.55	1,630			
Aug. 14			12 m.-----	2.12	193	11-----	4.50	1,590	Aug. 20		
1 a.m.-----	2.84	475	6 p.m.-----	1.95	146	12-----	4.86	1,920	2 a.m.-----	3.90	860
2-----	2.98	550	12-----	1.79	105				4-----	2.87	777
3-----	3.40	730	Aug. 16			Aug. 19			6-----	2.77	718
4-----	3.90	1,170	12 m.-----	1.61	76	1 a.m.-----	5.85	3,020	8-----	2.53	652
5-----	4.19	1,340	12-----	1.47	55	2-----	7.47	5,600	10-----	2.47	561
6-----	4.48	1,580				3-----	10.20	12,600	12 m.-----	2.24	467
6:30-----	4.51	1,610	Aug. 17			4-----	11.15	16,500	4 p.m.-----	2.03	375
7-----	4.50	1,500	12 m.-----	1.36	42	5-----	8.52	12,900	8-----	1.92	351
						6-----	5.50	3,840	12-----		

(73) West Branch Westfield River at Huntington, Mass.

Location.--Lat 42°14'14", long 72°53'46", on left bank at Huntington, Hampshire County, 0.4 mile downstream from Hoaring Brook and 1½ miles upstream from mouth. Datum of gage is 388.60 ft above mean sea level, datum of 1929.

Drainage area.--93.7 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9,500 cfs and extended to peak stage on basis of slope-area determination of peak flow. Shifting-control method used at times.

Maxima.--August 1955: Discharge, 26,100 cfs 4:30 a.m. Aug. 19 (gage height, 15.27 ft).

1935 to July 1955: Discharge, 21,800 cfs Sept. 21, 1938 (gage height, 15.5 ft, from floodmarks), from rating curve extended above 1,900 cfs on basis of computations of flow over dam at gage heights 11.93, 12.95, and 15.5 ft and slope-area determination at gage height 15.5 ft.

Remarks.--Some diurnal fluctuation at low flow caused by mill above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	5.3	7	3.8	12	20	17	94	22	217	27	132
2	4.8	8	3.5	13	554	18	2,260	23	481	28	114
3	4.5	9	3.3	14	1,210	19	10,500	24	510	29	93
4	4.2	10	4.0	15	341	20	1,390	25	211	30	81
5	4.0	11	4.5	16	143	21	749	26	161	31	81
6	3.8										

Runoff, in inches..... 7.77

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 11			Aug. 14--Con.			Aug. 18--Con.			Aug. 20--Con.		
12 p.m.---	0.34	4.8	10-----	3.74	1,450	1 p.m.---	5.70	3,130	7-----	3.75	1,580
Aug. 12			11-----	3.60	1,350	2-----	7.45	5,740	8-----	3.68	1,490
4 a.m.---	.39	6.2	12 m.---	3.44	1,240	3-----	7.81	5,740	9-----	3.61	1,440
8-----	.51	11	1 p.m.---	3.32	1,150	4-----	7.88	5,480	1-----	3.56	1,400
12 m.---	.68	17	2-----	3.20	1,110	5-----	7.06	4,690	11-----	3.58	1,400
3-----	.66	19	3-----	3.18	1,000	6-----	6.80	4,390	12 m.---	3.47	1,300
6-----	.81	29	4-----	3.09	897	7-----	6.48	3,990	1 p.m.---	3.41	1,240
9-----	.93	39	5-----	3.04	857	8-----	6.18	3,640	2-----	3.39	1,180
12-----	1.14	61	6-----	2.92	874	9-----	6.84	3,320	3-----	3.23	1,140
Aug. 13			7-----	2.86	827	10-----	6.41	3,400	4-----	3.18	1,100
1 a.m.---	1.23	72	8-----	2.78	770	11-----	6.75	4,340	5-----	3.13	1,080
2-----	1.27	78	9-----	2.71	707	12-----	7.45	5,370	6-----	3.08	1,040
3-----	1.36	93	10-----	2.64	678	Aug. 19			7-----	3.04	989
4-----	1.44	108	11-----	2.57	640	1 a.m.---	9.56	6,720	8-----	3.01	977
5-----	1.50	121	12-----	2.50	594	2-----	11.87	14,700	9-----	2.97	949
6-----	1.57	138	Aug. 15			3-----	13.74	20,100	10-----	2.95	935
7-----	1.67	185	6 a.m.---	1.24	413	4-----	14.93	24,400	11-----	2.93	921
8-----	1.94	282	12 m.---	1.08	310	4:30-----	15.27	26,100	12-----	2.90	900
9-----	1.95	288	6 p.m.---	1.88	150	5-----	15.11	25,700	Aug. 21		
10-----	2.17	378	12-----	1.74	187	6-----	15.84	27,000	1 a.m.---	2.65	890
11-----	2.34	481	Aug. 16			7-----	17.40	32,000	2-----	2.61	844
12 m.---	2.48	572	4 a.m.---	1.66	167	8-----	17.50	34,400	3-----	2.78	800
1 p.m.---	2.61	657	12 m.---	1.58	140	9-----	18.45	32,300	4-----	2.75	795
2-----	2.76	762	6 p.m.---	1.81	170	10-----	18.14	31,500	5-----	2.71	787
3-----	2.93	881	12-----	1.44	100	11-----	18.31	31,700	6-----	2.67	769
4-----	3.15	1,040	Aug. 17			12 m.---	9.34	9,700	2 p.m.---	2.64	764
5-----	3.20	1,070	2 a.m.---	1.39	90	1 p.m.---	8.68	8,700	3-----	2.56	764
6-----	3.21	1,080	12 m.---	1.35	80	2-----	8.15	8,000	4-----	2.53	744
7-----	3.13	1,020	6 p.m.---	1.74	200	3-----	7.54	7,000	5-----	2.50	720
8-----	3.03	951	12-----	1.51	100	4-----	7.03	5,690	6-----	2.47	700
9-----	2.95	895	Aug. 18			5-----	6.22	4,400	7-----	2.66	700
10-----	2.91	877	1 a.m.---	1.50	83	6-----	5.84	3,900	Aug. 22		
11-----	2.95	895	2 a.m.---	1.49	81	7-----	5.34	3,520	2 a.m.---	2.67	700
12-----	2.94	868	3-----	1.49	81	8-----	5.20	3,230	3-----	2.61	700
Aug. 14			4-----	1.28	40	9-----	4.70	2,910	4 a.m.---	2.52	680
1 a.m.---	3.06	972	5-----	1.27	30	10-----	4.86	3,000	5 p.m.---	2.35	600
2-----	3.25	1,100	6-----	1.20	20	11-----	4.28	1,400	6-----	2.30	500
3-----	3.32	1,150	7-----	1.20	20	12-----	4.28	1,400	7-----	2.24	400
4-----	3.73	1,440	8-----	1.27	40	Aug. 23			Aug. 23		
5-----	4.58	2,130	9-----	1.51	100	1 p.m.---	4.00	1,000	1 p.m.---	2.15	400
6-----	4.82	2,340	10-----	1.73	140	2-----	4.22	2,150	4 a.m.---	2.00	300
7-----	4.55	2,100	11-----	2.14	364	3-----	4.00	1,000	12 m.---	1.90	300
8-----	4.19	1,790	12 m.---	4.25	1,000	4-----	3.98	1,740	1 p.m.---	1.80	300
9-----	3.96	1,600				5-----	3.80	1,000	2 p.m.---	1.70	300

NORTHEASTERN FLOODS OF AUGUST 1955

(84) Westfield River near Westfield, Mass.

Location.--Lat 42°05'24", long 72°41'58", on left bank 0.7 mile downstream from Great Brook and 3 miles east of Westfield, Hampden County. Datum of gage is 98.25 ft above mean sea level, datum of 1929.

Drainage area.--497 sq mi.

Gage-height record.--Water-stage recorder graph except for period 5:45 a.m. Aug. 19 to noon Aug. 24. Graph for periods 5:45 a.m. Aug. 19 to Aug. 21 and Aug. 23 to noon Aug. 24 based on outside-gage readings and floodmarks.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 18,000 cfs and extended to peak stage on basis of computations of flow over dam at gage heights 27.20, 29.40, and 34.2 ft. Discharge for Aug. 22 estimated on basis of trend of gage-height graph. Backwater from grass at times.

Maxima.--August 1955: Discharge, 70,300 cfs 7 to 8 a.m. Aug. 19 (gage height, 34.2 ft, from floodmarks).

1914 to July 1955: Discharge, 55,500 cfs Sept 21, 22, 1938 (gage height, 29.40 ft, from floodmarks), from computation of flow over dam.

Remarks.--Flood flow affected by Borden Brook and Cobble Mountain Reservoirs (combined usable capacity, 3,394,000,000 cu ft), Knightville Reservoir (usable capacity, 2,130,000,000 cu ft), and by dam failures above station. Low and medium flows regulated by Borden Brook and Cobble Mountain Reservoirs. Diversion above station from Westfield Little River for municipal supply of Springfield.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	79	7	95	12	202	17	1,960	22	2,710	27	2,380
2	110	8	79	13	1,300	18	7,210	23	3,040	28	2,470
3	95	9	83	14	3,140	19	37,400	24	3,200	29	3,490
4	107	10	81	15	1,790	20	11,000	25	3,480	30	3,350
5	114	11	101	16	2,230	21	3,620	26	2,740	31	2,580
6	114										

Runoff, in inches.....7.51

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 12			Aug. 14--Con.			Aug. 17--Con.			Aug. 19--Con.		
12 p.m.---	3.81	332	10-----	6.92	2,530	8-----	6.49	2,130	6-----	27.5	47,700
Aug. 13			11-----	6.81	2,420	10-----	6.40	2,050	7-----	34.2	70,300
2 a.m.---	3.89	364	12-----	6.73	2,350	12 m.---	6.30	1,960	8-----	34.2	70,300
4-----	4.12	461	Aug. 15			1 p.m.---	6.25	1,920	9-----	32.0	62,800
6-----	4.44	610	2 a.m.---	6.54	2,180	2-----	6.28	1,940	10-----	30.5	57,700
8-----	4.52	656	4-----	6.37	2,020	3-----	6.43	2,080	11-----	29.0	52,600
10-----	4.65	730	6-----	6.20	1,870	4-----	6.25	1,920	12 m.---	27.5	47,700
12 m.---	4.90	880	8-----	6.08	1,760	5-----	6.10	1,780	2 p.m.---	25.4	41,200
2-----	5.24	1,110	9-----	6.09	1,770	6-----	5.88	1,590	4-----	23.4	35,400
4-----	5.62	1,390	10-----	6.02	1,710	8-----	5.66	1,420	6-----	21.5	30,300
6-----	6.43	2,080	12 m.---	5.86	1,580	10-----	5.42	1,230	8-----	20.1	26,800
7-----	6.93	2,540	1 p.m.---	5.81	1,540	12-----			10-----	18.7	25,300
8-----	7.15	2,760	2-----	5.85	1,570	Aug. 18			12-----	17.2	19,700
9-----	7.12	2,730	3-----	5.91	1,620	2 a.m.---	5.17	1,060			
10-----	7.24	2,850	4-----	5.92	1,630	4-----	4.98	932	Aug. 20		
11-----	7.39	3,020	6-----	5.87	1,590	6-----	4.76	798	2 a.m.---	16.15	17,300
12-----	7.47	3,110	8-----	5.82	1,550	7-----	4.72	772	4-----	15.25	15,000
Aug. 14			10-----	6.06	1,740	8-----	4.78	774	6-----	14.50	14,000
1 a.m.---	7.47	3,110	12-----	6.46	2,100	9-----	4.87	862	8-----	13.75	12,600
2-----	7.32	2,940	Aug. 16			10-----	5.10	1,010	10-----	13.1	11,400
3-----	6.99	2,600	2 a.m.---	6.47	2,110	11-----	5.95	1,650	12 m.---	12.45	10,300
4-----	6.72	2,340	4-----	6.44	2,090	12 m.---	6.37	2,020	2 p.m.---	11.9	9,410
5-----	6.61	2,240	6-----	6.41	2,060	1 p.m.---	7.10	2,710	4-----	11.3	8,450
6-----	6.77	2,380	8-----	6.37	2,020	2-----	8.75	4,660	6-----	10.75	7,570
7-----	7.04	2,650	10-----	6.35	2,000	3-----	10.90	7,810	8-----	10.25	6,820
8-----	7.46	3,100	12 m.---	6.32	1,980	4-----	13.25	11,700	10-----	9.8	6,140
9-----	8.10	3,840	1 p.m.---	6.35	2,000	5-----	14.77	14,500	12-----	9.4	5,550
10-----	8.57	4,430	2-----	6.59	2,220	6-----	16.35	17,800			
11-----	8.71	4,610	3-----	6.87	2,480	7-----	16.99	19,200	Aug. 21		
12 m.---	8.60	4,470	4-----	6.94	2,550	8-----	17.06	19,300	2 a.m.---	9.00	4,990
1 p.m.---	8.33	4,120	6-----	6.95	2,560	9-----	16.78	18,700	4-----	8.65	4,590
2-----	8.03	3,760	8-----	6.90	2,510	10-----	16.38	17,800	6-----	8.37	4,170
3-----	7.77	3,440	10-----	6.84	2,450	11-----	16.04	17,100	8-----	8.12	3,860
4-----	7.55	3,200	12-----	6.79	2,400	12-----	15.75	16,500	10-----	7.90	3,600
5-----	7.43	3,060	Aug. 17			Aug. 19			12 m.---	7.72	3,380
6-----	7.41	3,040	2 a.m.---	6.72	2,340	1 a.m.---	15.71	16,400	4 p.m.---	7.42	3,050
7-----	7.31	2,930	4-----	6.65	2,280	2-----	16.89	19,000	6-----	7.22	2,830
8-----	7.19	2,800	6-----	6.57	2,200	3-----	18.48	22,800	12-----	7.09	2,700
9-----	7.05	2,660				4-----	20.46	27,600			
						5-----	23.49	35,700			

(85) Connecticut River at Thompsonville, Conn.

Location.--Lat 41°59'14", long 72°36'21", on right bank just upstream from Enfield Dam and 1 mile downstream from Thompsonville, Hartford County. Datum of gage is 33.48 ft above mean sea level, datum of 1929.

Drainage area.--9,661 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--August 1955: Discharge, 174,000 cfs 7 p.m. Aug. 19 (gage height, 10.93 ft).

1928 to July 1955: Discharge, 282,000 cfs Mar. 20, 1936 (gage height, 16.6 ft, from floodmarks).

Remarks.--Flood flow affected by Quabbin Reservoir (usable capacity, 55,700,000 cu ft), Borden Brook and Cobble Mountain Reservoirs (combined usable capacity, 3,394,000,000 cu ft), Knightville Reservoir (usable capacity, 2,130,000,000 cu ft), by other reservoirs, and by diversion from Ware River. Discharge includes water diverted around station by canal of Connecticut Light & Power Co. Low and medium flows regulated by powerplants, by diversion from Chicopee River basin, and by reservoirs (combined usable capacity, about 88½ billion cu ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	2,460	7	1,130	12	9,700	17	23,900	22	29,400	27	18,000
2	3,420	8	1,800	13	15,400	18	9,200	23	15,700	28	11,100
3	3,400	9	2,290	14	36,700	19	127,000	24	24,500	29	13,900
4	3,720	10	2,550	15	45,600	20	104,000	25	24,800	30	14,900
5	2,620	11	3,660	16	31,300	21	49,900	26	21,700	31	14,200
6	1,640										

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 13			Aug. 16--Con.			Aug. 19--Con.			Aug. 22--Con.		
12 p.m.---	---	19,800	7 p.m.---	2.98	25,900	5 p.m.---	5.53	74,800	5 p.m.---	6.06	84,100
Aug. 14			4 p.m.---	2.94	27,900	6 p.m.---	5.89	81,800	6 p.m.---	5.89	80,900
2 a.m.---	2.59	22,600	6 p.m.---	2.89	27,800	7 p.m.---	6.35	90,400	7 p.m.---	5.78	79,000
4 p.m.---	2.84	26,300	8 p.m.---	2.86	27,300	8 p.m.---	6.81	99,200	8 p.m.---	5.95	76,000
6 p.m.---	3.07	30,000	10 p.m.---	2.83	26,800	9 p.m.---	7.31	112,000	9 p.m.---	5.46	72,000
8 p.m.---	3.25	32,900	12 p.m.---	2.78	25,900	10 p.m.---	8.06	122,000	10 p.m.---	5.35	70,600
10 p.m.---	3.42	35,700	Aug. 17			11 p.m.---	8.77	131,000	11 p.m.---	5.24	68,400
12 m.---	3.60	38,800	6 a.m.---	2.76	24,700	12 p.m.---	9.33	144,000	12 p.m.---	5.14	66,400
2 p.m.---	3.75	41,400	12 m.---	2.62	23,400	1 p.m.---	9.84	155,000	1 p.m.---	5.05	64,600
4 p.m.---	3.86	43,000	6 p.m.---	2.59	23,000	2 p.m.---	10.17	158,000			
6 p.m.---	3.94	44,500	12 p.m.---	2.53	22,100	3 p.m.---	10.44	164,000	Aug. 21		
8 p.m.---	4.00	45,500	Aug. 18			4 p.m.---	10.65	166,000	2 a.m.---	4.26	60,000
10 p.m.---	4.05	46,400	6 a.m.---	2.48	21,100	5 p.m.---	10.82	172,000	4 p.m.---	4.71	68,100
12 p.m.---	4.07	46,800	8 p.m.---	2.46	21,400	6 p.m.---	10.90	173,000	6 p.m.---	4.62	55,300
Aug. 15			10 p.m.---	2.54	22,300	7 p.m.---	10.93	174,000	8 p.m.---	4.41	51,600
2 a.m.---	4.08	46,800	11 p.m.---	2.64	23,700	8 p.m.---	10.92	173,000	10 p.m.---	4.31	50,800
4 p.m.---	4.09	47,000	12 p.m.---	2.76	25,500	9 p.m.---	10.84	172,000	12 p.m.---	4.21	49,000
6 p.m.---	4.01	46,200	1 p.m.---	2.84	27,200	10 p.m.---	10.71	169,000	2 p.m.---	4.11	47,200
8 p.m.---	4.02	46,300	2 p.m.---	2.94	28,100	11 p.m.---	10.56	167,000	4 p.m.---	4.02	45,600
10 p.m.---	4.03	46,400	3 p.m.---	3.06	30,200	12 p.m.---	10.36	163,000	6 p.m.---	3.95	44,400
12 m.---	4.04	46,600	4 p.m.---	3.12	31,800	Aug. 20			8 p.m.---	3.84	42,500
2 p.m.---	4.01	46,200	5 p.m.---	3.24	33,000	1 a.m.---	11.10	188,000	10 p.m.---	3.79	40,400
4 p.m.---	3.99	45,700	6 p.m.---	3.18	32,400	2 p.m.---	9.84	155,000	12 p.m.---	3.65	38,400
6 p.m.---	3.95	45,100	7 p.m.---	3.06	30,800	3 p.m.---	9.50	147,000	Aug. 22		
8 p.m.---	3.89	44,000	8 p.m.---	3.02	30,300	4 p.m.---	9.12	140,000	7 a.m.---	5.46	66,000
10 p.m.---	3.80	42,500	9 p.m.---	3.00	30,000	5 p.m.---	8.91	138,000	4 p.m.---	5.34	64,000
12 p.m.---	3.70	40,800	10 p.m.---	3.00	30,000	6 p.m.---	8.45	128,000	6 p.m.---	5.12	60,000
Aug. 16			11 p.m.---	3.90	44,500	7 p.m.---	8.17	122,000	8 p.m.---	5.14	60,700
2 a.m.---	3.59	39,000	12 p.m.---	4.07	47,100	8 p.m.---	7.80	116,000	10 p.m.---	5.09	59,900
4 p.m.---	3.47	36,900	Aug. 19			9 p.m.---	7.55	112,000	12 p.m.---	5.05	59,000
6 p.m.---	3.34	34,700	1 a.m.---	4.43	55,600	10 p.m.---	7.50	107,000	2 p.m.---	4.94	57,500
8 p.m.---	3.23	32,900	2 a.m.---	4.50	56,500	11 p.m.---	7.39	105,000	4 p.m.---	4.63	54,800
10 p.m.---	3.13	31,300	3 p.m.---	4.89	61,200	12 p.m.---	7.30	104,000	6 p.m.---	4.76	55,100
12 m.---	3.05	30,000	4 p.m.---	5.20	66,100	1 p.m.---	7.01	94,600	8 p.m.---	4.70	54,700
						2 p.m.---	6.41	83,900	10 p.m.---	4.60	53,400
						3 p.m.---	6.10	81,000	12 p.m.---	4.61	53,000

NORTHEASTERN FLOODS OF AUGUST 1955

(89) Scantic River at Broad Brook, Conn.

Location.--Lat 41°54'42", long 72°33'48", on left bank 300 ft upstream from bridge on State Highway 140, half a mile downstream from Broad Brook, 1 mile southwest of town of Broad Brook, Hartford County, and 8½ miles upstream from mouth. Datum of gage is 26.23 ft above mean sea level, datum of 1929.

Drainage area.--98.4 sq mi.

Gage-height record.--Water-stage recorder graph except for periods 8 a.m. Aug. 19 to 1 p.m. Aug. 20 and 3 p.m. Aug. 24 to 9 a.m. Aug. 27. Graph for period 8 a.m. Aug. 19 to 1 p.m. Aug. 20 drawn on basis of floodmark and time of peak.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,200 cfs and by computations of flow over dams 7 and 9 miles above station at gage heights 13.9 and 14.4 ft, adjusted for flow from intervening area on basis of computation of flow over dam on Broad Brook, and by slope-area determination of peak flow. Discharge for Aug. 25, 26 estimated on basis of normal recession.

Maxima.--August 1955: Discharge, 13,300 cfs 6 p.m. Aug. 19 (gage height, 19.9 ft, from floodmark).

1928 to July 1955: Discharge, 7,360 cfs Sept. 21, 1938 (gage height, 16.06 ft, from floodmark).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	31	7	29	12	93	17	114	22	839	27	324
2	31	8	65	13	258	18	398	23	589	28	303
3	29	9	62	14	403	19	7,770	24	567	29	282
4	28	10	48	15	416	20	5,070	25	450	30	259
5	25	11	48	16	233	21	1,460	26	360	31	246
6	28										

Runoff, in inches..... 7.89

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 17			Aug. 18--Cont.			Aug. 19--Cont.			Aug. 20--Cont.		
7 p.m.---	1.30	109	8-----	6.39	176	4-----	19.5	13,300	11-----	10.43	2,000
			9-----	6.40	780	5-----	19.75	13,000			
Aug. 18			10-----	6.58	807	6-----	19.9	13,300	Aug. 21		
8 a.m.---	1.21	100	11-----	6.86	874	7-----	19.85	13,000	7-----	9.72	1,850
7-----	1.51	113	12-----	7.26	974	8-----	19.8	13,100	8 p.m.---	9.21	1,440
8-----	1.31	113				9-----	19.4	12,500	9-----	8.68	1,230
9-----	1.44	129	Aug. 19			10-----	18.8	11,100	10-----	8.15	1,070
10-----	2.25	201	1 a.m.---	7.96	1,160						
11 m.---	2.52	275	2-----	8.88	1,940	Aug. 20			Aug. 21		
12 p.m.---	3.66	368	3-----	11.00	2,450	4 a.m.---	17.6	9,000	12 p.m.---	7.25	821
1-----	3.57	407	4-----	12.85	3,000	5-----	18.1	9,380	1 p.m.---	6.37	544
2-----	4.33	483	5-----	14.6	5,120	6-----	14.9	5,480			
3-----	5.62	645	6-----	16.25	7,050	7 m.---	17.55	9,100			
4-----	6.07	719	7 p.m.---	17.9	9,540	8 p.m.---	17.85	9,100	Aug. 22		
5-----	6.24	743	8-----	18.85	10,300	9-----	17.87	8,740	1 p.m.---	5.98	595
6-----	6.35	763	9-----	19.1	11,700		17.94	8,000	12 p.m.---	5.66	541

(93) West Branch Farmington River near New Boston, Mass.

Location.--Lat 42°04'45", long 73°04'24", on left bank 5 ft downstream from highway bridge, 0.3 mile downstream from Clam River, and 1 mile south of New Boston, Berkshire County. Datum of gage is 758.21 ft above mean sea level, datum of 1929.

Drainage area.--92.0 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9,600 cfs and extended to peak stage on basis of slope-area determination of peak flow.

Maxima.--August 1955: Discharge, 34,300 cfs 4:45 a.m. Aug. 19 (gage height, 14.06 ft).

1913 to July 1955: Discharge, 18,500 cfs Sept. 21, 1938 (gage height, 12.94 ft), from rating curve extended above 1,400 cfs on basis of contracted-opening and slope-area determinations at gage heights 10.65 and 12.94 ft.

Remarks.--Flood flow affected by, and low and medium flows regulated by, Otis Reservoir.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	15	7	16	12	34	17	178	22	1,160	27	272
2	14	8	16	13	458	18	2,400	23	805	28	265
3	14	9	15	14	1,340	19	16,100	24	504	29	223
4	14	10	15	15	676	20	3,360	25	581	30	194
5	14	11	16	116	337	21	1,710	26	302	31	171
6	16										

FLOOD DATA

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(93) West Branch Farmington River near New Boston, Mass.--Continued
Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 14--Con.			Aug. 18--Con.			Aug. 19--Con.		
12 p.m.---	2.92	51	6-----	5.87	1,250	7-----	3.74	193	9-----	8.97	6,560
Aug. 13			7-----	5.88	1,170	8-----	3.95	242	10-----	8.86	6,190
2 a.m.---	3.00	60	8-----	5.81	1,120	9-----	4.20	317	11-----	8.74	5,810
4-----	3.16	82	9-----	5.74	1,070	10-----	5.12	700	12-----	8.05	5,530
6-----	3.30	104	10-----	5.68	1,030	11-----	6.46	1,680	Aug. 20		
8-----	3.57	156	11-----	5.62	994	12 m.---	7.29	2,600	6 a.m.---	8.16	4,160
10-----	4.06	276	12-----	5.57	952	1 p.m.---	8.08	3,980	8-----	7.95	3,140
12 m.---	4.60	460	Aug. 15			2-----	8.23	4,340	12 m.---	7.18	2,470
1 p.m.---	4.60	460	4 a.m.---	5.39	844	3-----	8.18	4,210	6 p.m.---	6.90	2,020
2-----	4.64	476	8-----	5.21	746	4-----	8.05	3,570	Aug. 21		
3-----	4.87	576	12 m.---	5.05	665	5-----	7.91	3,610	6 a.m.---	6.50	1,720
4-----	5.15	715	4 p.m.---	4.91	595	6-----	7.92	3,640	12 m.---	6.20	1,450
5-----	5.35	822	8-----	4.76	527	7-----	7.83	3,470	6 p.m.---	5.94	1,220
6-----	5.39	844	9-----	4.63	472	8-----	7.66	3,160	12 m.---	6.36	1,590
7-----	5.45	880	12-----	4.53	432	9-----	7.71	3,250	6-----	7.13	2,400
8-----	5.48	898	Aug. 16			10-----	8.52	5,140	7-----	6.49	1,700
9-----	5.59	964	6 a.m.---	4.39	360	11-----	9.07	6,900	Aug. 22		
10-----	5.53	928	12 m.---	4.78	343	12-----	10.04	10,600	4 a.m.---	6.03	1,480
11-----	5.47	892	6 p.m.---	4.15	302	Aug. 19			8-----	6.01	1,290
12-----	5.43	868	8-----	4.11	290	1 a.m.---	11.22	15,800	12 m.---	5.89	1,180
Aug. 14			9-----	4.06	276	2-----	12.10	20,600	4 p.m.---	5.41	895
1 a.m.---	5.40	850	10-----	3.84	217	3-----	12.84	25,300	8-----	5.24	810
2-----	5.38	839	12-----	3.80	207	4-----	13.66	31,200	12-----	5.39	885
3-----	5.39	844	Aug. 17			4:45-----	14.06	34,300	Aug. 23		
4-----	5.40	850	4 a.m.---	3.75	196	5-----	13.74	31,800	6 a.m.---	5.05	1,030
5-----	5.58	958	8-----	3.70	184	6-----	13.35	28,800	4-----	5.55	970
6-----	6.12	1,380	12 m.---	3.66	175	7-----	12.89	25,600	6-----	5.45	915
7-----	6.92	2,150	4 p.m.---	3.65	173	8-----	12.63	23,900	12 m.---	5.31	795
7:30-----	7.03	2,280	8-----	3.60	162	9-----	12.43	22,600	6 p.m.---	5.01	695
8-----	7.02	2,260	12-----	3.56	154	10-----	12.17	21,000	12-----	4.85	615
9-----	6.81	2,030	Aug. 18			11-----	11.55	17,500	Aug. 24		
10-----	6.58	1,800	1 a.m.---	3.55	152	12 m.---	11.12	15,300	6 a.m.---	4.70	544
11-----	6.59	1,810	2-----	3.54	149	1 p.m.---	10.73	13,500	12 m.---	4.59	499
12 m.---	6.46	1,680	3-----	3.54	149	2 p.m.---	10.42	12,200	6 p.m.---	4.42	474
1 p.m.---	6.33	1,570	4-----	3.53	147	3-----	10.14	11,000	12-----	4.36	421
2-----	6.23	1,480	5-----	3.52	145	4-----	9.36	9,960			
3-----	6.18	1,430	6-----	3.55	152	5-----	9.64	9,010			
4-----	6.11	1,370				6-----	9.44	8,250			
5-----	6.03	1,300				7-----	9.25	7,540			
						8-----	9.10	7,000			

(99) Still River at Robertsville, Conn.

Location.--Lat 41°58'04", long 73°02'03", on left bank 1,500 ft downstream from Sandy Brook, 1 mile southeast of Robertsville, Litchfield County, 1 mile northwest of Riverton, and 1 mile upstream from mouth. Datum of gage is 510.24 ft above mean sea level, datum of 1929.

Drainage area.--84.4 sq mi.

Gage-height record.--Water-stage recorder graph except for 5 to 11 a.m. on Aug. 19 during time of the peak. Graph for this period was drawn on basis of floodmark and time of peak.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,600 cfs and by slope-area determinations at gage heights 10.12 and 16.48 ft.

Maxima.--August 1955: Discharge, 44,000 cfs 8 a.m. Aug. 19 (gage height, 16.48 ft, from floodmark).

1948 to July 1955: Discharge, 9,550 cfs Dec. 31, 1948 (gage height, 10.12 ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	6.8	7	7.8	12	43	17	145	22	746	27	220
2	5.9	8	5.7	13	331	18	2,490	23	629	28	202
3	6.1	9	5.6	14	1,150	19	24,900	24	460	29	184
4	10	10	5.9	15	592	20	3,716	25	324	30	140
5	14	11	9.8	16	254	21	1,150	26	264	31	146
6	13										

Runoff, in inches..... 16.75

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 18--Con.			Aug. 19--Con.			Aug. 21		
12 p.m.---	1.42	74	8-----	6.33	3,170	11-----	15.45	35,800	6 a.m.---	5.31	1,380
Aug. 18			9-----	6.37	3,220	12 m.---	15.05	35,000	12 m.---	5.40	1,170
3 a.m.---	1.45	75	10-----	6.63	3,530	2 p.m.---	13.72	24,600	6 p.m.---	4.59	854
5-----	1.65	108	11-----	7.86	5,220	4-----	12.49	18,300	9-----	4.49	800
6-----	1.68	113	12-----	10.45	10,460	5-----	11.96	15,600	12-----	4.49	800
7-----	2.00	173	Aug. 19			6-----	11.56	14,200	12-----	4.54	807
8-----	3.20	620	1 a.m.---	11.45	13,800	8-----	10.54	10,780	Aug. 22		
9-----	4.20	1,250	2-----	13.15	21,600	10-----	9.94	8,400	6 a.m.---	4.57	844
10-----	4.80	1,700	3-----	14.05	26,700	12-----	9.33	7,500	12 m.---	4.44	774
11-----	6.62	3,510	4-----	14.90	32,100	Aug. 20			6 p.m.---	4.19	659
12 m.---	6.57	3,450	5-----	15.58	36,900	5 a.m.---	8.68	6,020	12-----	4.02	589
1 p.m.---	7.74	5,030	6-----	16.17	41,600	6-----	8.32	5,550	Aug. 23		
2-----	7.48	4,640	7-----	16.43	43,600	7-----	7.69	4,190	6 a.m.---	4.24	691
3-----	7.11	4,130	8-----	16.48	44,000	11-----	7.39	3,380	4-----	4.20	689
4-----	6.96	3,940	9-----	16.40	43,490	5 p.m.---	6.33	2,310	12 m.---	4.17	650
5-----	6.72	3,630	10-----	16.00	40,200	8-----	6.00	1,960	6 p.m.---	3.91	546
						12-----	5.72	1,710			

NORTHEASTERN FLOODS OF AUGUST 1955

(106) Burlington Brook near Burlington, Conn.

Location.--Lat 41°47'10", long 72°57'55", on left bank in rock gorge, 1½ miles north of Burlington, Hartford County, 3 miles upstream from mouth, and 3 miles southwest of Collinsville. Datum of gage is 714.00 ft above mean sea level, datum of 1929.

Drainage area.--4.12 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 320 cfs and by computations of flow through orifice and over weir and abutments at peak flow.

Maxima.--August 1955: Discharge, 1,720 cfs 4 a.m. Aug. 19 (gage height, 9.22 ft).

1931 to July 1955: Discharge, 678 cfs Sept. 21, 1938 (gage height, 7.24 ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	0.81	7	2.80	12	8.98	17	3.57	22	17.8	27	8.95
2	.75	8	2.75	13	54	18	109	23	14.2	28	8.0
3	.69	9	.92	14	53	19	677	24	11.9	29	7.13
4	.79	10	.97	15	12.4	20	56	25	10.3	30	6.85
5	.72	11	1.99	16	5.77	21	27.0	26	10.4	31	7.13
6	1.06										

Runoff, in inches..... 10.13

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 18--Con.			Aug. 19--Con.			Aug. 20--Con.		
12 p.m.---	0.99	3.07	11-----	3.01	124	10-----	7.81	845	7-----	2.25	64
			12-----	3.28	148	11-----	7.70	807	10-----	2.17	58
Aug. 18			Aug. 19			1 p.m.---	6.60	537	6 p.m.---	1.92	41.5
4 a.m.---	.99	3.07	1 a.m.---	4.99	523	3-----	5.46	370	9-----	1.81	35.1
6-----	1.25	8.63	2-----	7.95	896	5-----	4.07	225	12-----	1.77	32.8
9-----	1.62	24.8	3-----	9.10	1,600	7-----	3.42	161			
11-----	3.60	178	4-----	9.22	1,720	10-----	2.89	113			
12 m.---	4.17	235	6-----	8.60	1,226	12-----	2.67	85	Aug. 21		
3 p.m.---	3.86	204	7-----	9.13	1,636	Aug. 20			12 m.---	1.68	27.9
4-----	3.82	200	9-----	8.03	927	4 a.m.---	2.39	73	6 p.m.---	1.60	23.7
10-----	3.02	125							12-----	1.52	19.7

(111) Farmington River at Rainbow, Conn.

Location.--Lat 41°54'41", long 72°41'16", on left bank at Rainbow, Hartford County, 300 ft from Stevens Paper Mill, 0.4 mile downstream from Farmington River Power Co. Dam, 1.3 miles upstream from Poquonock, 6.4 miles downstream from Salmon Brook and 8 miles upstream from mouth. Datum of gage is 35.36 ft above mean sea level, datum of 1929.

Drainage area.--584 sq mi.

Gage-height record.--Water-stage recorder graph 9 a.m. to 12 p.m. Aug. 31 only.

Discharge record.--Discharges computed from powerplant data furnished by Farmington River Power Co., and determination of peak flow over dam for flood of August 19.

Maxima.--August 1955: Discharge, 69,200 cfs 10-11 p.m. Aug. 19 (gage height, 23.5 ft, from floodmarks).

1928 to July 1955: Discharge, 29,900 cfs Sept. 22, 1938; gage height, 13.83 ft Jan. 1, 1949.

Remarks.--Flood flow regulated by powerplants, by Otis, Barkhamsted, East Branch, Nepaug and Whigville Reservoirs having a combined capacity of about 6,450,000,000 cubic feet, and by diversions for domestic water supply from Barkhamsted, Nepaug, and Whigville Reservoirs and Whites Bridge pumping plant.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	215	7	290	12	805	17	1,800	22	13,800	27	1,600
2	705	8	420	13	1,700	18	1,850	23	8,460	28	1,450
3	215	9	230	14	2,500	19	45,100	24	5,520	29	1,250
4	550	10	230	15	4,500	20	56,700	25	4,870	30	1,450
5	300	11	310	16	2,600	21	27,600	26	2,500	31	1,250
6	230										

Runoff, in inches..... 12.11

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 18--Con.			Aug. 19--Con.			Aug. 20		
12 p.m.---			4-----	7.70		4-----	68,000		8 a.m.---		15,700
			5-----	8.70		5-----	60,300		12 m.---		13,500
Aug. 18			6-----	18,000		6 p.m.---	80,000		6 p.m.---		11,900
4 a.m.---			7-----	41,100		3 p.m.---	84,000		12-----		10,400
7-----	1,000		8-----	41,600		4-----	47,000				
9-----	1,000		9-----	39,500		5-----	41,000		Aug. 21		
10-----	1,000		10 p.m.---	39,500		6-----	37,000		12 m.---		8,410
11-----	1,000		11-----	37,000		7-----	30,000		4 p.m.---		7,780
12 m.---	1,000		12-----	37,000		8-----	28,000		6-----		8,280
1 p.m.---	1,000		1-----	37,000		9-----	28,000		7-----		8,540
2-----	1,000		2-----	37,000		10-----	28,000		8-----		7,320
3-----	1,000		3-----	37,000		11-----	28,000		12-----		6,540
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000		Aug. 22		
6-----	1,000		6-----	37,000		2 p.m.---	28,000		8 a.m.---		5,920
7-----	1,000		7-----	37,000		3 p.m.---	28,000		6 p.m.---		5,500
8-----	1,000		8-----	37,000		4 p.m.---	28,000		7-----		3,930
9-----	1,000		9-----	37,000		5 p.m.---	28,000		11-----		4,120
10-----	1,000		10-----	37,000		6 p.m.---	28,000		12-----		5,540
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				
4-----	1,000		4-----	37,000		12 m.---	28,000				
5-----	1,000		5-----	37,000		1 p.m.---	28,000				
6-----	1,000		6-----	37,000		2 p.m.---	28,000				
7-----	1,000		7-----	37,000		3 p.m.---	28,000				
8-----	1,000		8-----	37,000		4 p.m.---	28,000				
9-----	1,000		9-----	37,000		5 p.m.---	28,000				
10-----	1,000		10-----	37,000		6 p.m.---	28,000				
11-----	1,000		11-----	37,000		7 p.m.---	28,000				
12 m.---	1,000		12-----	37,000		8 p.m.---	28,000				
1 p.m.---	1,000		1-----	37,000		9 p.m.---	28,000				
2-----	1,000		2-----	37,000		10 p.m.---	28,000				
3-----	1,000		3-----	37,000		11 p.m.---	28,000				

FLOOD DATA
(129) Housatonic River at Gaylordsville, Conn.

51

Location.--Lat 41°59'11", long 73°29'25", on left bank 0.4 mile downstream from hydroelectric plant of Connecticut Light & Power Co., 0.3 mile upstream from bridge on U. S. Highway 7 at Gaylordsville, Litchfield County, 1 1/2 miles downstream from Tensile River, and at mile 50.8. Datum of gage is 236.79 feet above mean sea level, datum of 1929.

Drainage area.--994 sq. mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 25,000 cfs and extended to peak stage on basis of logarithmic plotting.

Maxima.--August 1955: Discharge, 51,800 cfs 8 p.m. Aug. 12 (gage height, 18.58 ft.).

1900-1914, 1940 to July 1955: Discharge, 32,300 cfs Jan. 1, 1949 (gage height, 14.85 ft.).

Flood of May 1954 reached a stage of 21 ft. 3 in. at former gage site 0.6 mile downstream at different datum, reported by observer in 1902. Flood of Sept. 22, 1938, reached a stage of 14.5 ft., from floodmarks, at present site (discharge, 37,000 cfs, by computation of peak flow over dam 2 1/2 miles upstream adjusted for flow from intervening areas).

Remarks.--Low and medium flows regulated by powerplants above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	227	7	148	12	328	17	1,560	22	9,490	27	2,600
2	208	8	157	13	955	18	1,820	23	7,460	28	2,320
3	204	9	177	14	3,130	19	38,400	24	5,520	29	2,070
4	231	10	145	15	3,240	20	27,700	25	4,040	30	1,850
5	299	11	247	16	2,250	21	15,100	26	3,120	31	1,710
6	385										

Runoff, in inches...... 5.14

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 17 12 p.m.	3.41	1,380	Aug. 19 8 a.m.	6.95	10,700	Aug. 20--Con. 12 p.m.	13.56	26,200	Aug. 23 4 a.m.	7.80	6,010
			11 p.m.	11.75	19,000	6 p.m.	12.58	22,100	6 p.m.	7.92	7,840
Aug. 18 1 a.m.	3.20	1,210	4 a.m.	14.76	40,400	10 a.m.	11.81	19,800	4 p.m.	7.43	7,130
2 a.m.	3.22	1,230	10 a.m.	17.58	45,200	Aug. 21 12 a.m.			10 a.m.	7.06	6,480
3 a.m.	2.56	746	12 a.m.	17.91	48,000	8 a.m.	10.95	16,500			
4 a.m.	2.65	722	2 p.m.	18.23	49,000	4 p.m.	10.08	13,700	Aug. 24 11 a.m.	6.57	5,490
5 a.m.	2.90	980	4 a.m.	18.54	51,900	12 a.m.	9.51	11,600	2 p.m.	6.08	4,730
6 a.m.	3.21	1,220	6 a.m.	18.86	51,800						
7 a.m.	3.27	1,270	8 a.m.	18.53	51,900	Aug. 22 4 a.m.	8.66	9,900	Aug. 25 12 p.m.	5.65	4,040
8 a.m.	3.48	1,460	10 a.m.	17.78	47,300	4 p.m.	8.15	8,740	4 p.m.	5.23	3,430
9 a.m.	3.50	1,460	12 a.m.	16.95	41,300	6 a.m.	7.32	6,010			
10 a.m.	4.26	2,320	Aug. 20 8 a.m.	14.86	32,300	8 a.m.	7.80	7,130			
11 a.m.	4.33	2,500				10 a.m.					
12 a.m.	6.24	5,000				12 a.m.					

(137) Pomperaug River at Southbury, Conn.

Location.--Lat 41°28'50", long 73°13'30", on right bank 200 ft upstream from highway bridge, 800 ft downstream from Miller Hill Brook, 0.6 mile west of Southbury, New Haven County, and 5.8 miles upstream from mouth. Datum of gage is 165.60 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Drainage area.--75.3 sq. mi.

Gage-height record.--Water-stage recorder graph except for period 1 a.m. to 7 p.m. Aug. 19. Graph for this period drawn on basis of floodmark and time of peak.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,200 cfs and by computation of flow over dam at gage height 16.0 ft and slope-area determination of peak.

Maxima.--August 1955: Discharge, 29,400 cfs 6:30 a.m. Aug. 19 (gage height, 21.6 ft. from floodmarks).

1932 to July 1955: Discharge, 7,420 cfs Sept. 21, 1938 (gage height, 16.0 ft. from floodmarks).

Remarks.--Infrequent regulation at low flow only by mill above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	18	7	13	12	60	17	176	22	468	27	88
2	14	8	21	13	380	18	1,550	23	350	28	73
3	13	9	18	14	1,360	19	9,510	24	270	29	56
4	12	10	14	15	348	20	1,370	25	226	30	48
5	18	11	15	16	181	21	679	26	193	31	46
6	12										

Runoff, in inches...... 8.67

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 17 12 p.m.	3.48	108	Aug. 18--Con.	7.37	1,600	Aug. 19--Con.	10.95	25,800	Aug. 20 8 a.m.	7.80	6,010
			9 a.m.	7.13	1,540	12 p.m.	12.58	22,100	6 p.m.	7.92	7,640
Aug. 18 1 a.m.	3.47	106	10 a.m.	7.38	1,670	10 a.m.	18.09	13,800	4 p.m.	7.43	7,130
2 a.m.	3.60	148	11 a.m.	8.25	2,150	12 a.m.	17.15	11,600	10 a.m.	7.06	6,480
3 a.m.	4.52	344	12 a.m.	9.12	2,630	1 p.m.	16.0	9,900	12 a.m.	6.83	1,380
4 a.m.	5.40	680	Aug. 19 1 a.m.	10.00	3,160	4 a.m.	15.0	3,700	2 p.m.	6.66	1,300
5 a.m.	5.87	905	2 a.m.	11.25	3,960	6 a.m.	14.0	6,440	4 p.m.	6.20	1,180
6 a.m.	6.52	1,280	3 a.m.	13.7	5,900	8 a.m.	12.35	5,560	6 a.m.	5.35	955
7 a.m.	7.45	1,710	4 a.m.	17.5	9,500	10 a.m.	11.85	4,400	8 a.m.	5.78	880
8 a.m.	7.90	1,960	5 a.m.	19.5	15,000	12 a.m.	10.25	3,170	Aug. 21 1 a.m.	5.60	770
9 a.m.	8.23	2,700	6 a.m.	21.65	24,800	2 a.m.	9.80	1,040	3 a.m.	5.42	690
10 a.m.	8.94	4,070	7 a.m.	21.8	29,400	4 a.m.	9.35	2,770	5 a.m.	5.17	580
11 a.m.	9.75	5,010	8 a.m.	21.65	28,100	6 a.m.	9.38	2,880	7 a.m.	5.08	560
12 a.m.	8.84	4,470	9 a.m.	20.9	25,600	8 a.m.	9.73	2,410	9 a.m.	5.08	560
1 p.m.	8.02	2,020				10 a.m.	8.45	2,250	11 a.m.	5.01	540

NORTHEASTERN FLOODS OF AUGUST 1955

(148) Naugatuck River near Thomaston, Conn.

Location.--Lat 41°42'15", long 73°03'53", on right bank near downstream side of Twomile Bridge, 250 ft downstream from New York, New Haven & Hartford Railroad bridge, 0.4 mile upstream from Leadmine Brook and 2 miles north of Thomaston, Litchfield County, and at mile 31. Datum of gage is 389.44 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Drainage area.--71.0 sq mi.

Gage-height record.--Water-stage recorder graph except for period 4 a.m. Aug. 19 to 3 p.m. Aug. 20 and Aug. 21 to 30. Graph for period 4 a.m. Aug. 19 to 3 p.m. Aug. 20 was drawn on basis of floodmark and time of peak and for Aug. 21 to 30 on basis of shape of recession graph for former floods.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,000 cfs and by slope-area determination of peak flow.

Maxima.--August 1955: Discharge, 41,000 cfs 5:30 a.m. Aug. 19 (gage height, 24.0 ft, from floodmarks).

1930 to July 1955: Discharge 10,200 cfs Dec. 31, 1948 (gage height, 12.03 ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	13	7	26	12	71	17	110	22	500	27	180
2	20	8	31	13	433	18	2,160	23	350	28	170
3	19	9	24	14	1,690	19	14,700	24	280	29	150
4	21	10	23	15	442	20	2,320	25	220	30	145
5	25	11	35	16	187	21	1,000	26	190	31	142
6	42										

Runoff, in inches..... 13.33

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 17			Aug. 18--Con.			Aug. 19--Con.			Aug. 19--Con.		
7 p.m.	1.74	100	5	7.54	4,450	4	16.74	18,400	7	10.2	7,950
			6	8.85	5,700	5	16.80	17,800	8	9.2	6,530
Aug. 18			7	8.15	5,000	6	11.5	53,100	9	8.3	5,360
7 a.m.	1.75	93	8	9.70	7,500	7	12.8	41,000	10	7.5	4,400
7	1.95	144	9	9.37	7,000	8	14.0	41,000			
8	2.30	405	10	8.87	6,000	9	13.8	41,300	Aug. 20		
9	4.00	1,200	11	9.05	7,300	10	21.8	44,700	2 a.m.	6.8	3,600
10	6.17	3,000	12	7.01	4,000	11	18.3	30,000	3	8.3	3,150
11	8.45	3,300				12	17.0	25,400	4	5.9	2,790
12	8.62	3,490	Aug. 19			13	15.4	18,000	5	5.8	2,480
1 p.m.	8.07	3,670	1 a.m.	8.80	5,990	14	15.0	18,000	6	5.2	2,160
2	7.17	4,150		9.5	6,500	15	14.5	17,800	7	4.85	1,940
3	7.00	4,000		10.0	7,000	16	12.1	11,100	8	4.63	1,650
4	7.10	4,000		14.0	14,000	17	11.1	9,500	9	4.12	1,050

(169) Rondout Creek near Lackawack, N. Y.

Location.--Lat 41°46'30", long 74°24'10" on left bank at downstream side of highway bridge known as Wilburs Bridge, 2 1/2 miles southeast of Lackawack, Ulster County, and 3 miles downstream from Merriman Dam (Roundout Reservoir). Datum of gage is 601.07 ft above mean sea level (datum of New York City Board of Water Supply).

Drainage area.--100 sq mi.

Gage-height record.--Water-stage recorder graph except for period 12:40 p.m. Aug. 1 to 12:50 p.m. Aug. 5, for which discharge was estimated on basis of weather records.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,400 cfs and extended to peak stage by logarithmic plotting.

Maxima.--August 1955: Discharge 2,360 cfs 1:15 a.m. Aug. 19 (gage height, 5.76 ft).

1906 to July 1955: Discharge 26,700 cfs Aug. 26, 1928 (slope-area determination by Board of Water Supply, city of New York).

Remarks.--Practically entire flow above Merriman Dam (drainage area, 94.4 sq mi) diverted for water supply of city of New York, subsequent to May 9, 1951.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	18	7	19	12	20	17	22	22	43	27	28
2	18	8	19	13	75	18	356	23	37	28	27
3	18	9	19	14	33	19	561	24	33	29	25
4	19	10	19	15	22	20	94	25	30	30	23
5	19	11	19	16	22	21	57	26	29	31	24
6	19										

Runoff, in inches..... 0.66

FLOOD DATA

25

(168) Rondout Creek near Lackawack, N. Y.--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 18--Con.			Aug. 19--Con.			Aug. 19--Con.		
12 p.m.--	0.75	25	1-----	1.90	157	4-----	4.00	934	8-----	1.92	161
Aug. 18			2-----	1.79	138	5-----	3.59	765	9-----	1.88	154
1 a.m.--	.75	25	3-----	1.70	125	6-----	3.33	585	10-----	1.84	147
2-----	.75	25	4-----	1.83	115	7-----	3.16	514	11-----	1.80	140
3-----	.78	26	5-----	1.92	161	8-----	3.01	456	12-----	1.76	134
4-----	.84	31	6-----	2.62	722	9-----	2.87	406			
5-----	.94	38	7-----	3.48	1,550	10-----	2.74	363			
6-----	.94	38	8-----	4.76	1,450	11-----	2.62	321	Aug. 20		
7-----	1.10	52	9-----	5.06	1,660	12 m.-----	2.50	291	4 a.m.-----	1.65	115
8-----	1.37	81	10-----	4.91	1,550	1 p.m.-----	2.40	266	5-----	1.55	104
9-----	1.56	106	11-----	5.26	1,660	2-----	2.31	244	6-----	1.45	97
10-----	1.63	115				3-----	2.22	223	7-----	1.35	79
11-----	1.96	168	Aug. 19			4-----	2.15	207	8-----	1.29	72
12 m.-----	2.09	194	1 a.m.-----	5.70	2,500	5-----	2.09	194	9-----	1.25	68
1 p.m.-----	2.25	230	2-----	5.49	2,080	6-----	2.02	180			
	2.06	188	3-----	4.75	1,420	7-----	1.97	170			

(175) Rondout Creek at Rosendale, N. Y.

Location.--Lat 41°50'35", long 74°05'10", on left bank 150 ft upstream from upper highway bridge in Rosendale, Ulster County, and 3 miles upstream from Wallkill River. Datum of gage is 42.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Drainage area.--386 sq mi.

Gage-height record.--Water-stage recorder graph, except for period 4 a.m., Aug. 19 to 4 p.m., Aug. 20, for which graph was reconstructed on basis of high-water mark in gage house.

Discharge record.--Stage-discharge defined by current-meter measurements below 15,000 cfs and extended to peak stage on basis of contracted-opening determination.

Maxima.--August 1955: Discharge 30,900 cfs about 6 a.m. Aug. 19 (gage height, 23.95 ft, from high-water mark in gage house).

1901-03, 1906-19, 1926 to July 1955: Discharge, 27,300 cfs Aug. 27, 1928 (gage height, 21.9 ft) from rating curve extended by logarithmic plotting.

Remarks.--Practically entire flow above Merriman Dam (drainage area, 94.4 sq mi) diverted for water supply of city of New York, subsequent to May 9, 1951.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	33	7	36	12	47	17	260	22	1,320	27	401
2	58	8	34	13	1,690	18	2,300	23	884	28	332
3	37	9	42	14	1,800	19	17,900	24	716	29	263
4	30	10	42	15	881	20	4,560	25	547	30	255
5	31	11	34	16	371	21	2,175	26	495	31	261
6	33										

Runoff, in inches..... 3.65

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 13--Con.			Aug. 14--Con.			Aug. 15--Con.		
12 p.m.--	1.47	18	12 p.m.-----	1.65	497	12 p.m.-----	13.80	14,800	12 p.m.-----	8.67	5,600
Aug. 13*											
7 a.m.-----	1.55	22	Aug. 13*			Aug. 14*			Aug. 15*		
8-----	1.90	86	12 m.-----	1.68	507	1 p.m.-----	14.4	16,700	8 a.m.-----	7.9	5,430
9-----	2.06	498	12 p.m.-----	1.69	590	2-----	10.50	10,000	9-----	7.44	4,900
10-----	2.69	516				3-----	10.0	7,300	10-----	6.16	4,530
11-----	2.62	353	Aug. 17*			4-----	10.0	10,000	11-----	6.4	5,000
12 m.-----	2.51	297	12 m.-----	1.61	30	5-----	10.0	10,000	12-----	6.9	5,000
1 p.m.-----	5.75	2,840	12 p.m.-----	1.61	30	6-----	10.0	10,000			
2-----	7.16	4,910				7-----	10.0	10,000			
3-----	7.47	4,910	Aug. 18*			8-----	10.0	10,000			
4-----	7.10	4,550	4 a.m.-----	1.45	0	9-----	21.97	27,300	1 a.m.-----	6.0	4,000
5-----	6.72	3,940	5-----	1.60	0	10-----	21.00	27,300	2-----	5.14	3,000
Aug. 14*			6-----	1.60	144	11-----	19.4	27,300	3-----	5.0	3,000
6 a.m.-----	5.53	2,420	7-----	1.61	147	12-----	17.4	27,300	4-----	4.6	2,000
7-----	4.69	1,640	8-----	1.60	128	1 p.m.-----	16.0	16,000	5-----	4.6	2,000
8-----	4.21	1,460	9-----	1.60	128	2-----	15.0	14,000	6-----	4.6	2,000
9-----	3.89	1,200	10-----	1.60	128	3-----	14.0	11,000	7-----	4.6	2,000
10-----	3.81	1,160	11-----	1.60	128	4-----	10.75	9,000	8-----	4.6	2,000
11-----	3.70	1,120	12-----	1.60	128	5-----	10.0	10,000	9-----	4.6	2,000
Aug. 15*						6-----	10.0	10,000	10-----	4.6	2,000
12 m.-----	5.56	977	1 p.m.-----	1.60	128	7-----	10.0	10,000	11-----	4.6	2,000
			2-----	1.60	128	8-----	10.0	10,000	12-----	4.6	2,000
			3-----	1.60	128	9-----	10.0	10,000			
			4-----	1.60	128	10-----	10.0	10,000			
			5-----	1.60	128						
			6-----	1.60	128						
			7-----	1.60	128						
			8-----	1.60	128						
			9-----	1.60	128						
			10-----	1.60	128						
			11-----	1.60	128						
			12-----	1.60	128						

NORTHEASTERN FLOODS OF AUGUST 1955

(184) Wallkill River at Gardiner, N. Y.

Location.--Lat 41°41'10", long 74°09'55", on left bank 400 ft upstream from highway bridge, 500 ft downstream from Shawangunk Kill, and three-quarters of a mile northwest of Gardiner, Ulster County. Datum of gage is 185.70 ft above mean sea level, adjustment of 1912.

Drainage area.--711 sq mi.

Gage-height record.--Water-stage recorder graph, except for period 5 a.m. Aug. 5 to 8:40 a.m. Aug. 8, for which discharge was estimated on basis of weather records.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--August 1955: Discharge 30,600 cfs 10:30 a.m. Aug. 19 (gage height, 19.77 ft).

1924 to July 1955: Discharge 21,200 cfs June 1, 1952 (gage height, 14.99 ft); gage height, 18.63 ft Mar. 7, 1945 (ice jam).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	30	7	29	12	119	17	2,020	22	9,910	27	2,000
2	30	8	28	13	1,220	18	3,460	23	8,620	28	1,570
3	29	9	21	14	2,800	19	25,200	24	6,680	29	1,320
4	28	10	22	15	2,160	20	14,300	25	4,610	30	925
5	26	11	56	16	2,150	21	10,400	26	2,870	31	798
6	25										

Runoff, in inches..... 5.41

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 14--Con.			Aug. 18--Con.			Aug. 19--Con.		
12 p.m.	7.68	180	17	5.45	2,730	4	5.75	2,700	19	16.00	19,800
Aug. 13			Aug. 15			5	5.81	2,770	20		
1 a.m.	7.71	197	1 a.m.	5.32	2,440	6	5.85	2,830	Aug. 20		
2	7.70	200	2	5.26	2,140	7	5.90	2,770	6 a.m.	14.59	16,600
3	7.73	210	3	5.19	2,110	8	6.81	7,960	10 a.m.	13.53	13,600
4	7.79	256	4 p.m.	5.18	2,130	9	8.35	5,610	6 p.m.	10.00	11,900
5	7.84	246	5	5.20	2,120	10	10.20	8,890	12	11.45	10,800
6	7.91	276	10	5.24	2,150	11	11.90	11,600			
7	7.96	299				12	13.70	13,900			
8	7.97	303	Aug. 16			Aug. 19			Aug. 21		
9	7.94	292	1 a.m.	5.14	2,100	1 a.m.	14.30	16,000	12 m.	11.15	10,300
10	7.94	304	12 p.m.	5.13	2,100	2	16.25	18,100	12 p.m.	11.12	10,300
11	7.99	478	Aug. 17			3	16.70	21,700	Aug. 22		
12 m.	7.40	545	12 m.	5.12	1,940	4	18.00	25,000	6 a.m.	11.04	10,160
1 p.m.	7.57	662	12 p.m.	5.06	1,900	5	16.80	20,900	12 a.m.	10.92	9,970
2	7.95	950				6	19.00	28,000	6 p.m.	10.73	9,670
3	4.25	1,400	Aug. 18			7	19.26	28,900	12	10.93	9,350
4	4.48	1,400	1 a.m.	5.00	1,900	8	19.51	29,700			
5	4.50	1,700	2	4.98	1,900	9	19.68	30,300	Aug. 23		
6	5.30	2,740	3	4.97	1,890	10	19.77	30,800	6 a.m.	10.33	9,030
7	5.74	2,790	4	4.93	1,900	11	19.77	30,800	10 a.m.	10.11	8,680
8	6.35	3,010	5	4.99	1,910	12 m.	19.85	30,800	6 p.m.	9.82	8,210
9	6.17	3,190	6	5.31	2,930	1 p.m.	19.45	29,500	12	9.50	7,730
10	6.28	3,330	7	5.36	2,970	2	19.17	28,600			
11	6.30	3,370	8	5.14	2,060	3	18.85	27,500	Aug. 24		
12	6.36	3,450	9	5.25	2,170	4	19.53	26,500	5 a.m.	9.05	7,060
Aug. 14			10	5.47	2,400	5	19.15	25,400	4 p.m.	8.57	6,340
1 a.m.	6.10	3,110	11	5.61	2,540	6	17.91	24,500	12	8.03	5,580
2	6.08	2,970	12 m.	5.71	2,600	7	17.45	23,500			
3	5.80	2,760	1 p.m.	5.81	2,730	8	17.11	22,500	Aug. 25		
4 p.m.	5.67	2,620	2	5.77	2,730	9	16.85	21,900	4 a.m.	7.55	4,920
5	5.50	2,500	3	5.78	2,680	10	16.59	21,200	4 p.m.	7.08	4,290
						11	15.73	20,500	12	6.57	3,670

FLOOD DATA

55

(185) Wappinger Creek near Wappingers Falls, N. Y.

Location.--Lat 41°39'05", long 73°52'20", on left bank 700 ft downstream from Red Oak Mill dam and 4½ miles north-east of village of Wappingers Falls, Dutchess County. Altitude of gage is 120 ft (from topographic map).

Drainage area.--182 sq mi.

Gage-height record.--Water-stage recorder graph, except for period 12 m. to 6 p.m. Aug. 19, for which graph was re-constructed on basis of high-water mark.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,800 cfs and extended on basis of flow-over-dam determination at 18.02 ft, and contracted-opening and flow-over-road determination at 19.60 ft made upstream at Manchester Bridge at Arlington, N. Y., with discharge of 18,000 cfs.

Maxima.--August 1955: Discharge, 18,600 cfs about 3 p.m. Aug. 19 (gage height, 19.60 ft, from high-water mark in gage house).

1928 to July 1955: Discharge, 15,900 cfs Sept. 22, 1938 (gage height 18.02 ft, from floodmarks).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	14	7	12	12	12	17	95	22	1,400	27	473
2	14	8	12	13	112	18	312	23	1,230	28	426
3	13	9	11	14	410	19	10,500	24	916	29	365
4	13	10	11	15	221	20	5,490	25	664	30	327
5	12	11	11	16	137	21	2,290	26	551	31	298
6	12										

Runoff, in inches..... 5.39

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 17			Aug. 19--Con.			Aug. 20--Con.			Aug. 22--Con.		
12 p.m.--	3.14	83	10-----	14.30	10,780	10-----	10.34	5,510	8-----	5.20	1,510
			11-----	16.00	13,200	12 m.-----	9.94	5,030	11 m.-----	5.08	1,420
Aug. 18*			12 m.-----	17.40	15,300	2 p.m.-----	9.53	4,830	4 p.m.-----	5.86	1,300
4 a.m.-----	3.14	83	1 p.m.-----	18.10	16,300	4-----	9.00	3,990	6-----	5.74	1,210
8-----	3.24	99	2-----	19.00	17,700	6-----	8.76	3,720	12-----	5.63	1,150
12 m.-----	3.43	136	3-----	19.40	18,600	8-----	8.57	3,530			
4 p.m.-----	3.76	226	4-----	19.26	19,000	10-----	8.42	3,390	Aug. 23		
8-----	4.76	660	5-----	18.73	17,200	12-----	8.23	3,190	4 a.m.-----	5.61	1,140
12-----	5.95	1,350	6-----	18.10	16,300				8-----	5.73	1,210
			7-----	17.50	15,400				12 m.-----	5.89	1,310
Aug. 19			8-----	16.75	14,300	Aug. 21			4 p.m.-----	5.86	1,290
1 a.m.-----	6.26	1,550	9-----	16.30	13,300	4 a.m.-----	7.81	2,790	8-----	5.71	1,200
2-----	6.69	1,860	10-----	15.30	12,100	8-----	7.49	2,450	12-----	5.53	1,090
3-----	7.36	2,390	11-----	14.60	11,100	12 m.-----	7.17	2,240			
4-----	7.91	2,880	12-----	14.00	10,300	4 p.m.-----	6.87	2,000	Aug. 24		
5-----	8.40	3,440				8-----	6.63	1,860	4 a.m.-----	5.38	990
6-----	9.50	4,530	Aug. 20*			12-----	6.40	1,650	8-----	5.28	930
7-----	10.55	5,760	2 a.m.-----	13.05	8,930				12 m.-----	5.20	890
8-----	11.50	6,910	4-----	12.06	7,640				4 p.m.-----	5.14	850
9-----	12.71	8,480	6-----	11.43	6,870	Aug. 22			8-----	5.14	850
			8-----	10.75	5,940	4 a.m.-----	6.27	1,560	12-----	5.04	800

NORTHEASTERN FLOODS OF AUGUST 1955

(21C) South Branch Raritan River at Stanton, N. J.

Location.--Lat 40°34'21", long 74°52'10", on right bank at downstream side of highway bridge near Stanton railroad station, Reading Township, Hunterdon County, half a mile upstream from Prescott Brook. Datum of gage is 125.01 ft above mean sea level, datum of 1929.

Drainage area.--147 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,500 cfs and extended to peak stage on basis of adjustment to station of contracted-opening determination of 22,900 cfs made 1.7 miles downstream and slope-area determination of 19,600 cfs made 0.4 mile downstream. Backwater from aquatic growth or debris, at times.

Maxima.--August 1955: Discharge, 18,000 cfs 2 a.m. Aug. 19 (gage height, 15.22 ft).

1903-6, 1919-July 1955: Discharge, 10,900 cfs Mar. 15, 1940, July 19, 1945 (gage height, 12.2 ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	75	7	83	17	740	17	300	27	880	27	310
2	70	8	193	18	4,390	18	1,920	28	575	28	276
3	65	9	87	19	1,390	19	8,060	29	453	29	255
4	63	10	76	20	625	20	1,430	30	391	30	245
5	65	11	119	21	346	21	924	31	338	31	241
6	67										

Runoff, in inches..... 6.34

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 10			Aug. 14--Con.			Aug. 19			Aug. 21		
12 p.m.--	2.39	72	12-----	4.35	930	1 a.m.-----	14.53	16,300	2 a.m.-----	4.47	1,000
Aug. 11			Aug. 15			2-----	15.22	19,000	4-----	4.42	972
4 a.m.--	2.42	78	4 a.m.-----	4.13	798	3-----	14.84	17,100	6-----	4.38	948
8-----	2.40	74	8-----	3.97	705	4-----	13.75	14,400	8-----	4.35	930
12 m.--	2.39	72	12 m.--	3.92	595	5-----	12.75	12,200	10-----	4.31	906
4 p.m.--	2.41	76	4 p.m.--	3.67	520	6-----	12.00	10,600	12 m.--	4.26	876
6-----	2.56	134	6-----	3.54	456	7-----	11.49	9,580	2 p.m.--	4.20	840
8-----	2.73	152	12-----	3.47	424	8-----	11.28	9,130	4-----	4.14	804
10-----	3.21	318	Aug. 16			9-----	11.14	8,910	6-----	4.09	774
12-----	3.34	370	4 a.m.-----	3.42	402	10-----	10.75	8,160	8-----	4.11	786
Aug. 12			8-----	3.37	379	11-----	10.37	7,480	10-----	4.64	1,100
2 a.m.--	3.29	350	12 m.--	3.32	338	12 m.--	9.90	6,670	12-----	4.91	1,270
4-----	3.13	286	4 p.m.--	3.26	314	1 p.m.-----	9.50	6,030			
6-----	3.10	276	8-----	3.20	290	2-----	9.26	5,670	Aug. 22		
8-----	3.38	388	12-----	3.17	280	3-----	9.04	5,340	2 a.m.-----	4.79	1,190
10-----	4.25	870	Aug. 17			4-----	8.82	5,030	4-----	4.57	1,060
12-----	4.91	1,270	4 a.m.-----	3.14	269	5-----	8.60	4,720	6-----	4.43	978
2 p.m.--	4.61	1,090	8-----	3.12	262	6-----	8.31	4,340	8-----	4.39	954
4-----	4.29	854	12 m.--	3.07	245	7-----	8.00	3,960	10-----	4.33	918
6-----	4.14	804	4 p.m.--	3.17	280	8-----	7.68	3,580	12 m.--	4.24	864
8-----	4.20	840	8-----	3.43	406	9-----	7.32	3,180	2 p.m.--	4.16	816
10-----	4.51	1,030	12-----	3.42	402	10-----	6.99	2,850	4-----	4.07	762
12-----	4.79	1,190				11-----	6.66	2,540	6-----	3.99	715
Aug. 13			Aug. 18			12-----	6.36	2,290	8-----	3.93	685
2 a.m.--	4.82	1,210	1 a.m.-----	3.50	460	Aug. 20			10-----	3.88	658
4-----	6.28	2,220	2-----	4.02	732	1 a.m.-----	6.11	2,090	12-----	3.86	646
6-----	8.15	4,140	3-----	4.73	1,160	2-----	5.90	1,930	Aug. 23		
8-----	9.65	6,270	4-----	5.35	1,560	3-----	5.74	1,820	4 a.m.-----	3.82	622
10-----	10.29	7,330	5-----	5.41	1,600	4-----	5.62	1,730	6-----	3.78	600
12 m.--	9.94	6,740	6-----	5.42	1,600	5-----	5.52	1,660	8-----	3.75	585
2 p.m.--	9.72	6,380	7-----	5.37	1,570	6-----	5.44	1,610	10-----	3.68	550
4-----	9.19	5,560	8-----	5.25	1,490	7-----	5.37	1,570	12-----	3.57	495
6-----	8.48	4,560	9-----	5.08	1,380	8-----	5.31	1,530			
8-----	7.69	3,590	10-----	4.89	1,250	9-----	5.25	1,490	Aug. 24		
10-----	7.03	2,890	11-----	4.72	1,150	10-----	5.20	1,460	4 a.m.-----	3.54	480
12-----	6.38	2,300	12 m.--	4.66	1,120	11-----	5.14	1,420	6-----	3.52	470
Aug. 14			1 p.m.--	4.64	1,100	12 m.--	5.09	1,380	8-----	3.49	456
2 a.m.--	5.73	1,910	2-----	4.63	1,100	1 p.m.--	5.02	1,340	10-----	3.45	438
4-----	5.05	1,360	3-----	4.60	1,080	2-----	4.96	1,300	12-----	3.41	420
6-----	4.60	1,080	4-----	4.53	1,040	3-----	4.90	1,260			
8-----	4.40	960	5-----	4.50	1,020	4-----	4.84	1,220	Aug. 25		
10-----	4.30	900	6-----	4.59	1,070	5-----	4.78	1,190	4 a.m.-----	3.37	402
12 m.--	4.29	894	7-----	5.15	1,420	6-----	4.73	1,160	6-----	3.37	402
2 p.m.--	5.35	1,360	8-----	6.15	2,120	7-----	6.68	1,130	8-----	3.37	402
4-----	6.16	2,130	9-----	7.50	3,380	8-----	6.64	1,100	10-----	3.33	384
6-----	6.15	2,120	10-----	8.35	4,400	9-----	6.61	1,090	12 m.--	3.30	370
8-----	5.15	1,420	11-----	9.85	6,590	10-----	4.58	1,070	4 p.m.--	3.27	358
10-----	4.60	1,180	12-----	13.17	13,000	11-----	4.56	1,050	6-----		
						12-----	4.52	1,020	8-----		

(227) Delaware River above Lackawaxen River, near Barryville, N. Y.

Location.--Lat 41°30'30", long 74°59'15", on left bank 1.6 miles upstream from Lackawaxen River and 5.8 miles north-west of Barryville, Sullivan County. Datum of gage is 600.22 ft above mean sea level (datum of 1929, New York-Pennsylvania supplementary adjustment of 1943).

Drainage area.--2,023 sq mi.

Gage-height record.--Water-stage recorder graph except for period 9 p.m. Aug. 18 to 9 a.m. Aug. 22, for which graph was reconstructed on basis of high-water mark in gage house and outside-gage readings.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 55,000 cfs and by slope-area determination at 23.19 ft.

Maxima.--August 1955: Discharge, 130,000 cfs, about 3:30 a.m. Aug. 19 (gage height, 26.40 ft, from high-water mark in gage house).

1940 to July 1955: Discharge, 105,000 cfs, May 23, 1942 (gage height, 23.19 ft), from slope-area determination.

Remarks.--Practically entire flow above Downsview Dam (drainage area, 371 sq mi) diverted for water supply of city of New York, subsequent to Sept. 15, 1954.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	532	7	566	12	808	17	1,930	22	9,480	27	2,910
2	541	8	576	13	2,720	18	10,400	23	9,720	28	2,520
3	516	9	605	14	6,100	19	85,000	24	6,750	29	2,300
4	505	10	560	15	5,180	20	25,800	25	4,770	30	1,840
5	500	11	565	16	2,920	21	12,700	26	3,600	31	2,140
6	523										

Runoff, in inches..... 3.78

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 11			Aug. 17			Aug. 19--Con.			Aug. 22		
12 p.m.--	2.31	640	4 a.m.----	3.81	2,190	1 p.m.-----	19.53	60,400	4 a.m.-----	7.11	11,500
			8-----	3.70	2,020	2-----	19.03	77,200	4-----	6.96	10,800
Aug. 12			12 m.-----	3.61	1,890	3-----	18.53	73,900	6-----	6.78	10,100
6 a.m.--	2.31	640	4 p.m.-----	3.53	1,790	4-----	18.03	70,700	8-----	6.61	9,480
12 m.-----	2.39	690	8-----	3.47	1,710	5-----	17.48	67,100	10-----	6.49	9,050
6 p.m.-----	2.80	990	12-----	3.41	1,630	6-----	17.03	64,200	12 m.-----	6.40	8,740
12-----	3.01	1,180				7-----	16.53	60,900	2 p.m.-----	6.32	8,470
Aug. 13			Aug. 18			8-----	16.03	57,700	4-----	6.27	8,300
4 a.m.--	3.14	1,310	1 a.m.-----	3.39	1,610	9-----	15.51	54,400	6-----	6.30	8,400
8-----	3.36	1,570	2-----	3.39	1,610	10-----	15.06	51,700	8-----	6.38	8,670
12 m.-----	4.13	2,720	3-----	3.38	1,600	11-----	14.56	48,700	10-----	6.75	9,910
4 p.m.--	4.53	3,480	4-----	3.38	1,600	12-----	14.08	45,800	12-----	6.67	9,690
8-----	4.97	4,480	5-----	3.39	1,610						
12-----	4.83	4,150	6-----	3.43	1,660	Aug. 20			Aug. 23		
Aug. 14			7-----	3.45	1,680	1 a.m.-----	13.61	43,300	2 a.m.-----	6.72	9,870
2 a.m.--	4.76	3,990	8-----	3.49	1,740	2-----	13.14	40,700	4-----	6.92	10,600
4-----	4.84	4,170	9-----	3.57	1,840	3-----	12.65	38,000	6-----	7.04	11,100
6-----	5.10	4,800	10-----	3.63	1,920	4-----	12.21	35,600	8-----	6.92	10,600
8-----	5.34	5,440	11-----	3.69	2,010	5-----	11.76	33,000	10-----	6.78	10,100
10-----	5.37	5,520	12 m.-----	3.86	2,270	6-----	11.36	30,900	12 m.-----	6.71	9,840
12 m.-----	5.82	6,820	1 p.m.-----	4.09	2,650	7-----	11.01	29,000	2 p.m.-----	6.53	9,550
2 p.m.-----	6.21	8,090	2-----	4.29	3,010	8-----	10.69	27,400	4-----	6.58	9,370
4-----	6.21	8,090	3-----	4.66	3,760	9-----	10.43	26,000	6-----	6.53	9,190
6-----	6.05	7,560	4-----	5.26	5,220	10-----	10.23	25,000	8-----	6.45	8,910
8-----	5.88	7,020	5-----	5.90	7,080	11-----	10.04	24,100	10-----	6.36	8,570
10-----	5.75	6,610	6-----	6.63	9,550	12 m.-----	9.86	23,200	12-----	6.26	8,260
12-----	5.64	6,280	7-----	7.53	12,900	1 p.m.-----	9.69	22,400			
Aug. 15			8-----	8.83	18,500	2-----	9.54	21,700	Aug. 24		
4 a.m.--	5.61	6,190	9-----	11.03	29,100	3-----	9.38	21,000	4 a.m.-----	6.08	7,660
8-----	5.51	5,910	10-----	13.51	42,700	4-----	9.24	20,300	6-----	5.89	7,050
12 m.-----	5.29	5,300	11-----	16.03	57,700	5-----	9.11	19,700	8-----	5.77	6,670
4 p.m.--	5.02	4,600	12-----	18.03	70,700	6-----	8.98	19,200	10-----	5.64	6,280
8-----	4.82	4,130	Aug. 19			7-----	8.86	18,600	12-----	5.51	5,910
12-----	4.65	3,740	1 a.m.-----	21.03	90,200	8-----	8.73	18,000	Aug. 25		
Aug. 16			2-----	24.56	115,000	9-----	8.62	17,500	6 a.m.-----	5.72	5,110
4 a.m.--	4.48	3,380	3-----	26.33	130,000	10-----	8.52	17,100	12 m.-----	5.08	4,750
8-----	4.34	3,110	4-----	26.37	130,000	11-----	8.40	16,600	6 p.m.-----	4.93	4,380
12 m.-----	4.21	2,870	5-----	25.94	127,000	12-----	8.30	16,100	12-----	4.80	4,080
4 p.m.--	4.09	2,650	6-----	24.71	117,000	Aug. 21			Aug. 26		
8-----	3.99	2,480	7-----	23.66	109,000	4 a.m.-----	7.93	14,600	6 a.m.-----	4.57	3,570
12-----	3.91	2,350	8-----	22.51	101,000	6-----	7.62	13,300	12 p.m.-----	4.39	3,220
			9-----	21.61	94,300	8-----	7.36	12,300			
			10-----	21.01	90,100	12 m.-----	7.15	11,500			
			11-----	20.53	86,900	4 p.m.-----	7.03	11,000			
			12 m.-----	20.05	83,800	8-----	7.13	11,400			

NORTHEASTERN FLOODS OF AUGUST 1955

(231) Middle Creek near Hawley, Pa.

Location.--Lat 41°29'05", long 75°13'20", on downstream side of left span of highway bridge near center pier, 0.1 mile downstream from Red Shale Brook, 2 miles northwest of Hawley, Wayne County, and 2.5 miles upstream from mouth. Datum of gage is 1,017.73 ft above mean sea level, unadjusted.

Drainage area.--78.4 sq mi.

Gage-height record.--Wire-weight gage read twice daily and peak from crest-stage indicator.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,500 cfs and extended above on basis of slope-area determinations at gage heights 13.22 ft and 17.87 ft.

Maxima.--August 1955: Discharge, 12,000 cfs 1 a.m., Aug. 19 (gage height, 17.87 ft, from crest-stage indicator). 1944 to July 1955: Discharge, 6,970 cfs July 10, 1952 (gage height, 14.17 ft), from rating curve extended as explained above.

Flood of May 23, 1942 reached a stage of about 18 ft.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	3.1	7	6.2	12	22	17	108	22	422	27	80
2	2.9	8	4.9	13	453	18	2,420	23	419	28	84
3	2.8	9	3.7	14	629	19	6,740	24	207	29	54
4	2.8	10	3.1	15	498	20	1,220	25	133	30	48
5	2.7	11	4.3	16	197	21	541	26	74	31	93
6	2.7										

Runoff, in inches..... 6.88

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 15--Con.			Aug. 18--Con.			Aug. 21		
12 p.m.--	2.43	34	6 p.m.--	4.59	360	12-----	17.47	11,400	12 m.-----	2.81	507
			12-----	4.27	284				6 p.m.-----	2.69	459
Aug. 13			Aug. 16			Aug. 19			8-----	2.71	540
2 a.m.--	2.73	59	12 m.-----	3.77	186	1 a.m.-----	17.87	12,000	10-----	3.06	592
4-----	3.20	103	12 p.m.-----	3.43	133	2-----	17.56	11,600	12-----	2.87	527
6-----	3.74	181				4-----	16.46	10,400			
8-----	4.49	336	Aug. 17			6-----	15.22	9,320			
10-----	5.34	571	12 m.-----	3.21	105	8-----	14.13	8,340	Aug. 22		
12 m.-----	5.94	769	12 p.m.-----	3.05	88	10-----	13.04	7,360	6 a.m.-----	2.53	420
2 p.m.--	5.92	762				12 m.-----	11.90	6,400	6 p.m.-----	2.35	368
6-----	5.45	606	Aug. 18			2 p.m.-----	10.73	5,410	8-----	2.34	365
10-----	5.07	491	4 a.m.-----	3.23	108	4-----	9.68	4,570	10-----	2.56	429
12-----	5.50	622	6-----	3.51	144	6-----	8.91	3,960	12-----	3.06	592
Aug. 14			8-----	4.20	269	8-----	8.18	3,410			
2 a.m.--	5.71	690	10-----	4.99	468	10-----	7.53	2,950	Aug. 23		
6-----	5.53	632	12-----	5.55	638	12-----	6.91	2,520	2 a.m.-----	3.29	675
12 m.-----	5.22	535	12 m.-----	6.75	1,100				4-----	3.11	610
6 p.m.--	5.53	632	4 p.m.-----	8.00	1,730	Aug. 20			8-----	2.65	456
12-----	5.86	741	7-----	10.00	3,060	4 a.m.-----	5.62	1,750	12 m.-----	2.36	371
Aug. 15			8-----	13.00	5,790	8-----	4.76	1,300	6 p.m.-----	2.11	304
6 a.m.--	5.53	632	9-----	15.12	8,260	12 m.-----	4.23	1,050	12-----	1.95	264
12 m.-----	5.06	489	10-----	16.17	9,620	6 p.m.-----	3.61	799			
			11-----	16.96	10,700	12-----	3.23	653			

(232) Lackawaxen River at Hawley, Pa.

Location.--Lat 41°28'30", long 75°10'05", on left bank at Hawley, Wayne County, 300 ft downstream from Wallenpaupack Creek and 1,000 ft downstream from highway bridge. Datum of gage is 869.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Drainage area.--290 sq mi (excludes that of Wallenpaupack Creek, which is 228 sq mi, and flow from which is diverted around station to hydroelectric plant downstream.)

Gage-height record.--Water-stage recorder graph to 11 p.m. Aug. 18 at which time recording gage was destroyed. Record from 11 p.m. Aug. 18 to 6 a.m. Aug. 23 based on graph of once-daily gage readings at bridge 1,000 ft upstream equated to recording gage site and floodmark of peak stage. Record from 6 a.m. Aug. 23 to Aug. 31 based on graph of once or twice-daily readings of inclined staff gage at recording gage site.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 12,000 cfs and by slope-area determination at gage height 20.1 ft.

Maxima.--August 1955: Discharge, 51,900 cfs about 2 a.m. Aug. 19 (gage height, 20.6 ft, from floodmark).

1908-19, 1938 to July 1955: Discharge, 50,000 cfs May 23, 1942 (gage height, 20.1 ft, from floodmark).

Flood of March 1936 reached a stage of 13.9 ft, from floodmark (discharge, 27,600 cfs).

Remarks.--At 11 p.m., August 18, the elevation of the water surface in Lake Wallenpaupack was 1,182.7 ft and rising. Spill over the top of the roller gates began at 7:15 a.m. Aug. 19 on the basis of information furnished by Pennsylvania Power and Light Co. The peak stage and peak discharge of the Lackawaxen River at Hawley, which occurred at about 2 a.m. August 19, were not affected by spill over the gates. Daily discharges for the period August 19-31 include spill over the gates which is listed below, in cfs:

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
19	1,290	23	2,160	26	1,140	29	639
20	2,900	24	1,710	27	944	30	480
21	2,900	25	1,380	28	789	31	369
22	2,650						

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	22	7	46	12	133	17	413	22	4,170	27	1,420
2	21	8	42	13	2,390	18	10,800	23	4,240	28	1,310
3	20	9	29	14	2,080	19	26,800	24	2,730	29	1,180
4	19	10	24	15	1,400	20	6,810	25	2,060	30	862
5	19	11	34	16	692	21	4,820	26	1,610	31	625
6	23										

Runoff, in inches (adjusted)..... 7.40

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 16			Aug. 18--Con.			Aug. 21--Con.		
12 p.m.--	2.00	176	6 a.m.-----	3.17	789	12-----	19.50	47,800	6 p.m.-----	5.76	4,330
Aug. 13			12 m.-----	2.99	668				10-----	5.65	4,120
4 a.m.--	2.13	217	6 p.m.-----	2.86	586	Aug. 19			12-----	6.13	5,140
6-----	2.47	370	12-----	2.72	502	2 a.m.-----	20.60	51,900			
8-----	3.00	675	Aug. 17			4-----	19.50	47,800	Aug. 22		
9-----	3.40	965	12 m.-----	2.52	394	5-----	18.37	43,700	1 a.m.-----	6.43	5,900
10-----	4.35	1,960	6 p.m.-----	2.45	360	6-----	17.20	39,600	2-----	6.48	6,030
11-----	5.35	3,560	12-----	2.53	399	8-----	15.35	33,200	4-----	5.82	4,450
12 m.-----	5.88	4,580	Aug. 18			10-----	13.46	27,000	6-----	5.50	3,830
4 p.m.--	5.85	4,520	4 a.m.-----	2.54	404	12 m.-----	12.00	22,300	12 m.-----	5.27	3,420
8-----	5.28	3,430	5-----	2.74	514	2 p.m.-----	10.85	18,800	4-----	5.25	3,380
12-----	4.72	2,490	6-----	3.00	675	4-----	9.87	15,800	8-----	5.50	3,830
Aug. 14			7-----	3.38	949	6-----	9.15	13,600	10-----	5.98	4,800
2 a.m.--	4.62	2,340	8-----	5.20	3,290	8-----	8.63	12,100	12-----	6.68	6,570
4-----	4.73	2,510	9-----	7.05	7,590	10-----	8.20	10,900			
6-----	4.50	2,160	10-----	7.50	8,850	12-----	7.80	9,710	Aug. 23		
8-----	4.33	1,930	12 m.-----	8.08	10,500	Aug. 20			1 a.m.-----	7.00	7,450
10-----	4.33	1,930	2 p.m.-----	8.40	11,400	4 a.m.-----	7.20	8,010	2-----	7.05	7,590
4 p.m.--	4.12	1,670	4-----	8.52	11,800	6-----	6.77	6,810	3-----	6.85	7,030
6-----	4.49	2,150	6-----	8.87	12,800	12 m.-----	6.62	6,400	4-----	6.20	5,310
12-----	4.31	1,900	7-----	9.33	14,200	6 p.m.-----	6.46	5,980	5-----	5.80	4,410
Aug. 15			8-----	10.10	16,500	12-----	6.31	5,590	12 m.-----	5.47	3,780
12 m.-----	3.86	1,390	9-----	12.20	22,900	Aug. 21			6 p.m.-----	5.21	3,310
6 p.m.--	3.60	1,140	10-----	14.15	29,200	6 a.m.-----	6.15	5,190	12-----	5.06	3,050
12-----	3.38	949	11-----	17.00	38,900	12 m.-----	5.97	4,770			

(242) Delaware River at Port Jervis, N. Y.

Location.--Lat 41°22'20", long 74°41'50", on right bank 250 ft downstream from highway bridge on U. S. Highways 6 and 209 at Port Jervis, Orange County, 1½ miles upstream from Neversink River, and 6.5 miles downstream from Mongaup River. Datum of gage is 415.35 ft above mean sea level, datum of 1929.

Drainage area.--3,076 sq mi.

Gage-height record.--Water-stage recorder graph except for periods 3-8 p.m. Aug. 13 (graph reconstructed on basis of recorded range in stage) and 4-8 a.m. Aug. 19 (graph reconstructed on basis of high-water mark in gage house).

Discharge record.--Stage-discharge defined by current-meter measurements below 89,000 cfs and extended to peak stage on basis of slope-area determinations at 14.95 ft and 23.91 ft.

Maxima.--August 1955: Discharge, 233,000 cfs, about 5:30 a.m. Aug. 19 (gage height, 23.91 ft, from high-water mark in gage house).

1904 to July 1955: Discharge 140,000 cfs, May 23, 1942 (gage height, 17.76 ft), from rating curve extended above 89,000 cfs by logarithmic plotting on basis of slope-area determination.

Oct. 10, 1903: Discharge, 205,000 cfs (gage height, 23.1 ft, reported by United States Weather Bureau), from rating curve extended above 70,000 cfs by logarithmic plotting and velocity-area studies; maximum stage known, 23.5 ft Mar. 8, 1904 (ice jam).

Remarks.--Practically entire flow above Downsville Dam (drainage area, 371 sq mi) diverted for water supply of city of New York, subsequent to Sept. 15, 1954. Flow regulated by Lake Wallenpaupack and by Toronto, Cliff Lake, and Swinging Bridge reservoirs (combined capacity, 12,300,000,000 cu ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	762	7	810	12	1,450	17	4,170	22	17,400	27	5,770
2	1,350	8	850	13	5,640	18	15,700	23	17,100	28	4,870
3	1,430	9	810	14	10,600	19	165,000	24	12,700	29	4,570
4	1,300	10	807	15	9,170	20	49,900	25	9,140	30	4,320
5	1,400	11	945	16	5,530	21	23,400	26	7,170	31	4,960
6	1,160										

Runoff, in inches..... 4.67

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 13--Con.			Aug. 13			Aug. 13--Con.		
3 p.m.	2.27	1,360	17 p.m.	3.84	5,760	1 a.m.	10.95	151,000	7 p.m.	6.41	31,600
Aug. 13			18 p.m.	3.79	5,190	2 a.m.	11.29	172,000	10 p.m.	5.30	30,700
4 a.m.	1.98	1,230	4 a.m.	3.73	5,190	3 a.m.	12.40	207,000			
4 p.m.	2.13	1,400	5 a.m.	3.67	5,190	4 a.m.	12.40	213,000	Aug. 21		
6 a.m.	2.34	1,400	6 a.m.	3.55	4,900	5 a.m.	12.40	213,000	4 a.m.	7.90	27,600
8 a.m.	2.64	1,400	7 a.m.	3.55	4,900	6 a.m.	12.40	213,000	8 a.m.	7.55	25,200
10 a.m.	2.94	1,400	8 a.m.	3.45	4,800	7 a.m.	12.40	213,000	10 a.m.	7.24	23,000
12 p.m.	3.47	4,100	9 a.m.			8 a.m.	12.40	213,000	4 p.m.	6.92	20,600
2 p.m.	4.10	4,400	10 a.m.			9 a.m.	12.40	213,000	6 a.m.	6.68	19,400
4 p.m.	4.58	4,400	11 a.m.			10 a.m.	12.40	213,000	8 a.m.	6.54	18,500
6 p.m.	4.61	4,400	12 p.m.			11 a.m.	11.47	192,000	Aug. 22		
8 p.m.	5.15	11,500	1 a.m.	3.41	4,390	12 a.m.	11.48	175,000	4 a.m.	6.57	18,700
10 p.m.	5.15	11,500	2 a.m.	3.30	4,200	1 a.m.	12.47	175,000	8 a.m.	6.56	18,700
12 p.m.	5.15	11,500	3 a.m.	3.20	4,200	2 a.m.	12.47	175,000	1 p.m.	6.36	17,900
2 p.m.	5.15	11,500	4 a.m.	3.10	4,200	3 a.m.	12.47	175,000	4 p.m.	6.19	16,400
4 p.m.	5.15	11,500	5 a.m.	3.00	4,200	4 a.m.	12.45	175,000	8 a.m.	6.05	15,800
6 p.m.	5.15	11,500	6 a.m.	2.90	4,200	5 a.m.	12.45	175,000	12 p.m.	6.15	16,700
8 p.m.	5.15	11,500	7 a.m.	2.80	4,200	6 a.m.	12.45	175,000	Aug. 23		
10 p.m.	5.15	11,500	8 a.m.	2.70	4,200	7 a.m.	12.45	175,000	4 a.m.	6.30	17,100
12 p.m.	5.15	11,500	9 a.m.	2.60	4,200	8 a.m.	12.45	175,000	8 a.m.	6.51	18,400
2 p.m.	5.15	11,500	10 a.m.	2.50	4,200	9 a.m.	12.45	175,000	12 p.m.	6.49	18,500
4 p.m.	5.15	11,500	11 a.m.	2.40	4,200	10 a.m.	14.22	89,500	4 p.m.	6.19	16,400
6 p.m.	5.15	11,500	12 p.m.	2.30	4,200	11 a.m.	14.22	89,500	8 a.m.	6.05	15,800
8 p.m.	5.15	11,500	1 a.m.	2.20	4,200	12 a.m.	13.15	89,500	12 p.m.	6.09	16,000
10 p.m.	5.15	11,500	2 a.m.	2.10	4,200	Aug. 24			4 p.m.	6.37	18,100
12 p.m.	5.15	11,500	3 a.m.	2.00	4,200	1 a.m.	13.11	77,300	Aug. 25		
2 p.m.	5.15	11,500	4 a.m.	1.90	4,200	2 a.m.	13.01	77,300	10 p.m.	5.40	12,500
4 p.m.	5.15	11,500	5 a.m.	1.80	4,200	3 a.m.	13.01	77,300	12 p.m.	5.04	10,700
6 p.m.	5.15	11,500	6 a.m.	1.70	4,200	4 a.m.	13.01	77,300	Aug. 26		
8 p.m.	5.15	11,500	7 a.m.	1.60	4,200	5 a.m.	13.01	77,300	4 a.m.	4.97	10,100
10 p.m.	5.15	11,500	8 a.m.	1.50	4,200	6 a.m.	13.01	77,300	8 a.m.	4.77	9,400
12 p.m.	5.15	11,500	9 a.m.	1.40	4,200	7 a.m.	13.01	77,300	10 a.m.	4.70	9,150
2 p.m.	5.15	11,500	10 a.m.	1.30	4,200	8 a.m.	13.01	77,300	12 p.m.	4.61	8,740
4 p.m.	5.15	11,500	11 a.m.	1.20	4,200	9 a.m.	13.01	77,300	4 p.m.	4.60	7,880
6 p.m.	5.15	11,500	12 p.m.	1.10	4,200	10 a.m.	13.01	77,300	8 a.m.	4.53	8,560
8 p.m.	5.15	11,500	1 a.m.	1.00	4,200	11 a.m.	10.48	49,700	10 a.m.	4.59	7,910
10 p.m.	5.15	11,500	2 a.m.	0.90	4,200	12 p.m.	10.27	47,000	Aug. 27		
12 p.m.	5.15	11,500	3 a.m.	0.80	4,200	1 a.m.	10.11	44,000	4 a.m.	4.30	7,450
2 p.m.	5.15	11,500	4 a.m.	0.70	4,200	2 a.m.	9.54	42,100	8 a.m.	4.27	7,550
4 p.m.	5.15	11,500	5 a.m.	0.60	4,200	3 a.m.	9.45	41,200	10 a.m.	4.12	7,210
6 p.m.	5.15	11,500	6 a.m.	0.50	4,200	4 a.m.	9.40	40,300	12 p.m.	4.07	7,150
8 p.m.	5.15	11,500	7 a.m.	0.40	4,200	5 a.m.	9.40	40,300	4 p.m.	3.95	6,140
10 p.m.	5.15	11,500	8 a.m.	0.30	4,200	6 a.m.	9.40	40,300	8 a.m.	4.11	6,710
12 p.m.	5.15	11,500	9 a.m.	0.20	4,200	7 a.m.	9.40	40,300	10 a.m.	4.10	6,570
2 p.m.	5.15	11,500	10 a.m.	0.10	4,200	8 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	11 a.m.	0.00	4,200	9 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	12 p.m.	0.00	4,200	10 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	1 a.m.	0.00	4,200	11 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	2 a.m.	0.00	4,200	12 p.m.	9.40	40,300			
12 p.m.	5.15	11,500	3 a.m.	0.00	4,200	1 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	4 a.m.	0.00	4,200	2 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	5 a.m.	0.00	4,200	3 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	6 a.m.	0.00	4,200	4 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	7 a.m.	0.00	4,200	5 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	8 a.m.	0.00	4,200	6 a.m.	9.40	40,300			
12 p.m.	5.15	11,500	9 a.m.	0.00	4,200	7 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	10 a.m.	0.00	4,200	8 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	11 a.m.	0.00	4,200	9 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	12 p.m.	0.00	4,200	10 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	1 a.m.	0.00	4,200	11 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	2 a.m.	0.00	4,200	12 p.m.	9.40	40,300			
12 p.m.	5.15	11,500	3 a.m.	0.00	4,200	1 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	4 a.m.	0.00	4,200	2 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	5 a.m.	0.00	4,200	3 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	6 a.m.	0.00	4,200	4 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	7 a.m.	0.00	4,200	5 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	8 a.m.	0.00	4,200	6 a.m.	9.40	40,300			
12 p.m.	5.15	11,500	9 a.m.	0.00	4,200	7 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	10 a.m.	0.00	4,200	8 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	11 a.m.	0.00	4,200	9 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	12 p.m.	0.00	4,200	10 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	1 a.m.	0.00	4,200	11 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	2 a.m.	0.00	4,200	12 p.m.	9.40	40,300			
12 p.m.	5.15	11,500	3 a.m.	0.00	4,200	1 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	4 a.m.	0.00	4,200	2 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	5 a.m.	0.00	4,200	3 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	6 a.m.	0.00	4,200	4 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	7 a.m.	0.00	4,200	5 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	8 a.m.	0.00	4,200	6 a.m.	9.40	40,300			
12 p.m.	5.15	11,500	9 a.m.	0.00	4,200	7 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	10 a.m.	0.00	4,200	8 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	11 a.m.	0.00	4,200	9 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	12 p.m.	0.00	4,200	10 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	1 a.m.	0.00	4,200	11 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	2 a.m.	0.00	4,200	12 p.m.	9.40	40,300			
12 p.m.	5.15	11,500	3 a.m.	0.00	4,200	1 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	4 a.m.	0.00	4,200	2 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	5 a.m.	0.00	4,200	3 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	6 a.m.	0.00	4,200	4 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	7 a.m.	0.00	4,200	5 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	8 a.m.	0.00	4,200	6 a.m.	9.40	40,300			
12 p.m.	5.15	11,500	9 a.m.	0.00	4,200	7 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	10 a.m.	0.00	4,200	8 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	11 a.m.	0.00	4,200	9 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	12 p.m.	0.00	4,200	10 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	1 a.m.	0.00	4,200	11 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	2 a.m.	0.00	4,200	12 p.m.	9.40	40,300			
12 p.m.	5.15	11,500	3 a.m.	0.00	4,200	1 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	4 a.m.	0.00	4,200	2 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	5 a.m.	0.00	4,200	3 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	6 a.m.	0.00	4,200	4 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	7 a.m.	0.00	4,200	5 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	8 a.m.	0.00	4,200	6 a.m.	9.40	40,300			
12 p.m.	5.15	11,500	9 a.m.	0.00	4,200	7 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	10 a.m.	0.00	4,200	8 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	11 a.m.	0.00	4,200	9 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	12 p.m.	0.00	4,200	10 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	1 a.m.	0.00	4,200	11 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	2 a.m.	0.00	4,200	12 p.m.	9.40	40,300			
12 p.m.	5.15	11,500	3 a.m.	0.00	4,200	1 a.m.	9.40	40,300			
2 p.m.	5.15	11,500	4 a.m.	0.00	4,200	2 a.m.	9.40	40,300			
4 p.m.	5.15	11,500	5 a.m.	0.00	4,200	3 a.m.	9.40	40,300			
6 p.m.	5.15	11,500	6 a.m.	0.00	4,200	4 a.m.	9.40	40,300			
8 p.m.	5.15	11,500	7 a.m.	0.00	4,200	5 a.m.	9.40	40,300			
10 p.m.	5.15	11,500	8 a.m.	0.00	4,200	6 a.m.	9.40	40,300			
12 p.m.	5.15	11,500	9 a.m.	0.00	4,200	7 a.m.	9.40	40,300			
2 p.m.	5.15	11,									

FLOOD DATA

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(243) Neversink River at Oakland Valley, N. Y.

Location.--Lat 41°29'45", long 74°38'45", on right bank 250 ft downstream from highway bridge known as Paradise Bridge, three-quarters of a mile downstream from Oakland Valley, Sullivan County, and 3½ miles northwest of Cuddebackville. Datum of gage is 332.00 ft above mean sea level, adjustment of 1912.

Drainage area.--222 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 7,800 cfs and extended to peak stage on basis of slope-area determination at 12.62 ft.

Maxima.--August 1955: Discharge, 23,800 cfs, 2:50 a.m. Aug. 19 (gage height, 12.74 ft).

1926 to July 1955: Discharge, 23,300 cfs, Nov. 26, 1950 (gage height 12.62 ft), on basis of slope-area determination.

Remarks.--Practically entire flow above Neversink Dam (drainage area, 91.8 sq mi) diverted for water supply to city of New York, subsequent to June 2, 1953.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	97	7	116	12	146	17	320	22	700	27	259
2	101	8	106	13	1,540	18	2,510	23	847	28	222
3	97	9	101	14	1,120	19	11,000	24	544	29	192
4	96	10	105	15	614	20	2,240	25	380	30	179
5	85	11	114	16	324	21	1,080	26	296	31	321
6	96										

Runoff, in inches..... 4.31

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 12			Aug. 14--Con.			Aug. 16--Con.			Aug. 18--Con.		
12 p.m.---	1.38	177	1 p.m.---	3.50	908	1 p.m.---	4.10	1,470	1 p.m.---	3.85	3,580
Aug. 13			4 p.m.---	3.50	908	4 p.m.---	4.10	1,470	4 p.m.---		
1 a.m.---	2.01	186	5 p.m.---	3.45	919	5 p.m.---	4.10	1,470	5 p.m.---		
2 a.m.---	2.07	205	6 p.m.---	3.40	944	6 p.m.---	5.32	7,017	6 p.m.---		
3 a.m.---	2.11	218	7 p.m.---	3.35	944	7 p.m.---	6.30	8,460	7 p.m.---		
4 a.m.---	2.13	225	8 p.m.---	3.30	908	8 p.m.---	7.40	10,460	8 a.m.---		
5 a.m.---	2.21	353	9 p.m.---	3.25	880	9 p.m.---	8.70	9,580	9 a.m.---		
6 a.m.---	2.36	358	10 p.m.---	3.20	880	10 p.m.---	10.00	15,700	10 a.m.---		
7 a.m.---	2.60	411	11 p.m.---	3.15	849	11 p.m.---	11.30	16,900	11 a.m.---		
8 a.m.---	2.90	561	Aug. 15			Aug. 15			12 p.m.---		
9 a.m.---	3.26	785	12 m.---	3.10	800	1 a.m.---	11.30	10,000	12 p.m.---		
10 a.m.---	3.81	1,200	12 p.m.---	3.05	780	2 a.m.---	10.30	7,000	1 a.m.---		
11 a.m.---	4.11	1,400	Aug. 16			3 a.m.---	10.74	8,000	2 a.m.---		
12 m.---	4.39	1,740	1 a.m.---	2.10	700	4 a.m.---	10.97	8,500	3 a.m.---		
1 p.m.---	4.88	2,200	2 a.m.---	1.98	177	5 a.m.---	11.30	10,400	4 p.m.---		
2 a.m.---	5.15	2,600	3 a.m.---	1.90	177	6 a.m.---	11.30	10,400	5 p.m.---		
3 a.m.---	5.22	2,700	4 a.m.---	1.90	177	7 a.m.---	11.30	10,400	6 p.m.---		
4 a.m.---	5.57	3,170	5 a.m.---	1.90	177	8 a.m.---	11.30	10,400	7 p.m.---		
5 a.m.---	5.76	3,350	6 a.m.---	1.90	177	9 a.m.---	11.30	10,400	8 p.m.---		
6 a.m.---	5.94	3,130	7 a.m.---	1.90	177	10 a.m.---	11.30	10,400	9 p.m.---		
7 a.m.---	5.25	2,740	8 a.m.---	1.90	177	11 a.m.---	11.30	10,400	10 p.m.---		
8 a.m.---	5.02	2,440	9 a.m.---	1.90	177	12 p.m.---	11.30	10,400	11 p.m.---		
9 a.m.---	4.82	2,200	10 a.m.---	1.90	177	1 a.m.---	11.30	10,400	12 p.m.---		
10 a.m.---	4.65	2,020	11 a.m.---	1.90	177	2 a.m.---	11.30	10,400			
11 a.m.---	4.50	1,850	12 m.---	1.90	177	3 a.m.---	11.30	10,400			
12 p.m.---	4.40	1,750	Aug. 17			4 a.m.---	11.30	10,400			
Aug. 14			1 a.m.---	1.97	177	5 a.m.---	11.30	10,400			
2 a.m.---	4.21	1,960	2 a.m.---	1.90	177	6 a.m.---	11.30	10,400			
3 a.m.---	4.06	1,410	3 a.m.---	1.90	177	7 a.m.---	11.30	10,400			
4 a.m.---	3.99	1,390	4 a.m.---	1.90	177	8 a.m.---	11.30	10,400			
5 a.m.---	3.80	1,190	5 a.m.---	1.90	177	9 a.m.---	11.30	10,400			
6 a.m.---	3.69	1,100	6 a.m.---	1.90	177	10 a.m.---	11.30	10,400			
7 a.m.---	3.60	1,030	7 a.m.---	1.90	177	11 a.m.---	11.30	10,400			
8 a.m.---	3.60	1,030	8 a.m.---	1.90	177	12 p.m.---	11.30	10,400			
9 a.m.---	3.60	1,030	9 a.m.---	1.90	177	1 a.m.---	11.30	10,400			
10 a.m.---	3.60	1,030	10 a.m.---	1.90	177	2 a.m.---	11.30	10,400			
11 a.m.---	3.60	1,030	11 a.m.---	1.90	177	3 a.m.---	11.30	10,400			
12 m.---	3.60	1,030	12 m.---	1.90	177	4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400			
						4 a.m.---	11.30	10,400			
						5 a.m.---	11.30	10,400			
						6 a.m.---	11.30	10,400			
						7 a.m.---	11.30	10,400			
						8 a.m.---	11.30	10,400			
						9 a.m.---	11.30	10,400			
						10 a.m.---	11.30	10,400			
						11 a.m.---	11.30	10,400			
						12 p.m.---	11.30	10,400			
						1 a.m.---	11.30	10,400			
						2 a.m.---	11.30	10,400			
						3 a.m.---	11.30	10,400		</	

(248) Delaware River at Montague, N. J.

Location.--Lat 41°18'50", long 74°47'50", on right bank at downstream side of old bridge pier and 0.4 mile upstream from toll bridge at Montague, Sussex County, three-quarters of a mile downstream from Saw Kill. Datum of gage is 369.93 ft above mean sea level, datum of 1929.

Drainage area.--3,480 sq mi.

Gage-height record.--Water-stage recorder graph except for Aug. 21-31 when there was no gage-height record.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 90,000 cfs. Discharge records being held pending completion of a basin study.

Maxima.--August 1955: Gage height, 35.15 ft 9 a.m. Aug. 19.

1940 to July 1955: Discharge, 136,500 cfs May 23, 1942 (gage height, 25.70 ft).

Flood of Oct. 10, 1903 reached a stage of 35.6 ft.

Remarks.--Flow regulated by Lake Wallenpaupack and by Pepacton, Toronto, Cliff Lake, Swinging Bridge, and Never-sink Reservoirs (combined capacity, 35,932,000 cu ft).

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	*Discharge	Time	Gage height	*Discharge	Time	Gage height	*Discharge	Time	Gage height	*Discharge
Aug. 11			Aug. 13--Cont.			Aug. 13--Cont.			Aug. 19--Cont.		
12 p.m.	4.70		10 a.m.	6.41		10 p.m.	11.90		11 p.m.	24.65	
Aug. 12			4 p.m.	6.24		11	11.80		12	23.74	
4 a.m.	4.69		12	7.66		12	14.10				
8 a.m.	4.21		Aug. 14			Aug. 13			Aug. 20		
12 m.	4.37		4 a.m.	7.21		1 a.m.	19.70		1 a.m.	22.75	
4 p.m.	4.88		12 m.	7.33		2	20.80		2	21.95	
8	4.90		4 p.m.	6.93		3	20.80		3	21.80	
12	4.56		12	6.75		4	20.80		4	20.28	
Aug. 13			Aug. 17			5	19.90		5	19.70	
4 a.m.	4.99		7 a.m.	6.51		6	19.90		6	19.15	
8	5.44		12 m.	6.38		7	19.90		7	18.72	
12 m.	6.00		4 p.m.	5.26		8	19.90		8	18.25	
4 p.m.	7.35		12	5.47		9	19.90		9	17.50	
8	7.37		Aug. 18			10	19.90		10	17.40	
12	6.68		4 a.m.	6.49		11	19.90		11	17.05	
Aug. 14			8	6.74		12	19.90		12	16.55	
4 a.m.	6.57		10	6.14		1	19.90		1 p.m.	16.55	
8	6.51		12	6.24		2	19.90		2	16.05	
12 p.m.	6.40		4	6.44		3	19.90		3	15.75	
4	6.79		10	6.75		4	19.90		4	15.50	
12	6.84		12 m.	6.81		5	19.90		5	15.25	
Aug. 15			4	6.71		6	19.90		6	15.04	
4 a.m.	6.66		7	6.72		7	19.90		7	14.72	
8	6.40		12	6.55		8	19.90		8	14.50	
						9	19.90		9	14.20	
						10	19.90		10	14.00	
						11	19.90		11	13.80	
						12	19.90		12	13.60	

* Discharge records being held pending completion of a basin study.

(252) Bush Kill at Shoemakers, Pa.

Location.--Lat 41°00'15", long 75°02'20", on right bank at downstream end of wingwall of highway bridge, 0.1 mile downstream from Saw Creek, three-quarters of a mile northwest of Shoemakers, Monroe County, and 2 miles southwest of Bushkill. Datum of gage is 421.13 ft above mean sea level, unadjusted.

Drainage area.--117 sq mi.

Gage-height record.--Water-stage recorder graph except for period 3:30 a.m. to 5:30 a.m. Aug. 19. Graph for missing period drawn on basis of floodmark in gage shelter.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,600 cfs and extended to peak stage on basis of slope-area determination. Determinations of the peak discharge by the slope-area method were run on Bush Kill (discharge, 13,500 cfs) at a site 0.4 mile upstream from the gaging station, and on Saw Creek (discharge 3,870 cfs) 1.6 miles upstream from its mouth. Saw Creek enters Bush Kill immediately above the gaging station. Shifting-control method used at times.

Maxima.--August 1955: Discharge, 23,400 cfs 4 a.m. Aug. 19, (gage height, 13.95 ft, from floodmark).

1908 to July 1955: Discharge, 5,250 cfs July 24, 1920 (gage height, 7.2 ft, from graph based on gage readings), from rating curve extended above 2,600 cfs by logarithmic plotting.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	8.2	7	9.7	12	51	17	225	22	1,270	27	375
2	8.2	8	16	13	480	18	1,110	23	1,000	28	324
3	7.3	9	15	14	584	19	11,800	24	744	29	272
4	6.8	10	12	15	421	20	4,110	25	572	30	241
5	6.8	11	14	16	304	21	1,380	26	448	31	379
6	6.8										

Runoff, in inches, 8.51

(252) Bush Kill at Shoemakers, Pa. Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 15			Aug. 18--Con.			Aug. 19--Con.		
12 p.m.---	1.39	52	12 m.-----	2.49	420	9-----	5.77	3,580	8-----	8.14	7,660
Aug. 13			12 p.m.-----	2.34	353	10-----	6.47	4,550	10-----	7.90	6,960
2 a.m.---	1.42	58	Aug. 16			11-----	6.95	5,440	12-----	7.49	6,340
4-----	1.56	97	12 m.-----	2.72	303	12-----	7.35	6,150	Aug. 20		
5-----	1.74	134	12 p.m.-----	2.10	256	Aug. 19			4 a.m.---	6.95	5,330
6-----	1.91	188	Aug. 17			1 a.m.---	7.95	7,300	8-----	6.53	4,620
7-----	2.15	276	12 m.-----	2.00	219	2-----	9.69	11,100	12 m.---	6.10	3,930
8-----	2.54	443	12 p.m.-----	1.96	205	3-----	12.45	18,600	4 p.m.---	5.73	3,580
9-----	2.62	482	Aug. 18			4-----	13.95	23,400	8-----	5.40	2,920
10-----	2.77	561	4 a.m.---	1.97	206	5-----	15.64	22,300	12-----	5.13	2,580
11-----	2.89	628	6-----	2.07	245	6-----	17.79	19,600	Aug. 21		
3 p.m.---	2.92	646	8-----	2.20	295	7-----	11.79	16,700	6 a.m.---	4.84	2,220
7-----	3.03	713	10-----	2.37	366	8-----	11.24	15,100	12 m.---	4.57	1,920
12-----	3.03	713	4 p.m.---	2.63	487	9-----	10.74	13,800	4 p.m.---	4.38	1,720
Aug. 14			5-----	2.82	598	10-----	10.34	12,900	12-----	4.19	1,530
12 m.-----	2.79	566	6-----	3.06	732	11-----	9.99	11,900	Aug. 22		
12 p.m.---	2.64	492	7-----	3.64	1,150	12 m.---	9.74	11,500	12 m.---	4.97	1,400
			8-----	4.73	1,320	2 p.m.---	9.30	10,200	12 p.m.---	3.66	1,070
						4-----	8.92	9,340			
						6-----	8.77	8,400			

(254) Flat Brook near Flatbrookville, N. J.

Location.--Lat 41°06'24", long 74°57'09", on right bank 1 mile upstream from Flatbrookville, Sussex County, and 1 1/2 miles upstream from mouth. Datum of gage is 347.73 ft above mean sea level, datum of 1929.

Drainage area.--65.1 sq mi.

Gage-height record.--Water-stage recorder graph except for Aug. 19 (6 a.m. to 6 p.m.) for which graph is drawn on basis of adjoining graphs and high-water mark in gage house and for Aug. 22-25 when there was no gage-height record.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,400 cfs and extended to peak stage on basis of slope-area determination. Discharge for period of no gage-height record Aug. 22-25 estimated on basis of weather records and records for nearby stations.

Maxima.--August 1955. Discharge, 9,550 cfs 11 a.m. Aug. 19 (gage height, 12.58 ft, from high-water mark in gage house).

1923 to July 1955: Discharge, 3 630 cfs Apr. 6, 1952 (gage height, 7.24 ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	8.0	7	20	12	15	17	127	22	260	27	112
2	8.0	8	29	13	462	18	468	23	180	28	110
3	6.8	9	18	14	506	19	6,310	24	160	29	95
4	6.8	10	12	15	369	20	1,510	25	140	30	86
5	6.8	11	12	16	191	21	508	26	126	31	98
6	6.0										

Runoff, in inches..... 6.84

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 14--Con.			Aug. 18--Con.			Aug. 19--Con.		
12 p.m.---	1.93	24	2 p.m.---	3.08	312	7-----	3.63	570	7-----	9.75	5,900
Aug. 13			4-----	3.20	365	8-----	4.37	932	8-----	9.20	5,740
2 a.m.---	2.04	30	6-----	3.37	442	9-----	4.85	1,280	9-----	8.70	4,670
4-----	2.14	43	8-----	3.41	460	10-----	5.30	1,590	10-----	8.10	4,020
5-----	2.24	58	10-----	3.40	455	11-----	5.75	1,920	11-----	7.70	3,620
6-----	2.39	86	12-----	3.43	470	12-----	6.25	2,280	12-----	7.25	3,180
7-----	2.66	159	Aug. 15			Aug. 19			Aug. 20		
8-----	2.92	249	3 a.m.---	3.45	480	1 a.m.---	6.75	2,720	2 a.m.---	6.75	2,720
10-----	3.26	392	12 m.---	3.19	360	2-----	7.45	3,370	4-----	6.25	2,300
12 m.---	3.43	470	12 p.m.---	2.92	249	3-----	8.75	4,180	6-----	5.76	1,920
2 p.m.---	3.60	555	Aug. 16			4-----	8.95	4,940	8-----	5.44	1,690
4-----	3.75	632	12 m.---	2.74	185	5-----	9.50	5,600	10-----	5.13	1,470
6-----	3.96	743	12 p.m.---	2.61	143	6-----	10.2	6,440	12 m.---	4.86	1,290
8-----	4.19	874	Aug. 17			7-----	10.8	7,190	2 p.m.---	4.65	1,160
10-----	4.35	970	12 m.---	2.53	120	8-----	11.3	7,840	4-----	4.46	1,040
11-----	4.37	982	12 p.m.---	2.47	105	9-----	11.8	8,490	6-----	4.32	940
12-----	4.34	964	Aug. 18			10-----	12.4	9,310	8-----	4.17	862
Aug. 14			4 a.m.---	2.48	107	11-----	12.58	9,550	10-----	4.05	792
2 a.m.---	4.15	850	6-----	2.62	147	12 m.---	12.5	9,450	12-----	3.92	721
4-----	3.90	710	8-----	2.83	216	1 p.m.---	12.3	9,170	Aug. 21		
6-----	3.74	575	12 m.---	3.13	334	2-----	11.9	8,620	6 a.m.---	3.64	575
8-----	3.41	460	4 p.m.---	3.38	446	3-----	11.4	7,970	8-----	3.44	475
10-----	3.26	392				4-----	10.9	7,320	12 m.---	3.39	406
12 m.---	3.14	338				5-----	10.5	6,800	6 p.m.---	3.35	432
							10.13	6,360	12-----		

NORTHEASTERN FLOODS OF AUGUST 1955

(260) Brodhead Creek at Minisink Hills, Pa.

Location.--Lat 41°00'00", long 75°08'50", on right bank 175 ft downstream from main building of Coates Paper Box Co. at Minisink Hills, Monroe County, 1 mile upstream from mouth and 5 miles southeast of East Stroudsburg. Datum of gage is 304.03 ft above mean sea level, datum of 1929.

Drainage area.--259 sq mi.

Gage-height record.--Water-stage recorder graph except for period Aug. 5-31. Graph based on readings from reference points and floodmarks Aug. 18, 19 and, during period Aug. 20-31, on occasional staff gage readings and shape of general recession.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,000 cfs and extended above on basis of computation of flow over dam at gage height 14.43 ft and slope-area determination at gage height 29.9 ft. Discharge for days of no gage-height record Aug. 5-17 was estimated on basis of records for nearby stations.

Maxima.--August 1955: Discharge 68,800 cfs 2 a.m. Aug. 19 (gage height, 29.9 ft).

1950 to July 1955: Discharge, 19,900 cfs Dec. 11, 1952 (gage height, 14.43 ft), from computation of peak flow over dam.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	51	7	60	12	190	17	1,300	22	2,710	27	562
2	50	8	58	13	1,000	18	8,700	23	2,190	28	394
3	46	9	90	14	3,000	19	40,500	24	1,990	29	942
4	48	10	77	15	2,800	20	9,970	25	1,130	30	570
5	41	11	87	16	2,000	21	3,720	26	615	31	992
6	41										

Runoff, in inches..... 11.15

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 17			Aug. 18--Con.			Aug. 19--Mon.			Aug. 20		
12 p.m.---	7.50	1,100	1-----	20.70	57,800	10-----	17.55	28,700	4 a.m.---	11.10	12,300
			11-----	22.30	42,600	11-----	17.05	17,000	5-----	10.35	10,800
			12-----	23.85	47,300	12 m.---	16.45	15,300	12 m.---	9.75	9,500
Aug. 18						1 p.m.---	15.90	13,800	4 p.m.---	9.29	9,710
3 a.m.---	8.50	1,100	Aug. 19			2-----	15.42	20,500	8-----	8.80	7,920
6-----	2.55	1,700	1 a.m.---	25.00	54,800	3-----	15.00	21,400	10-----	8.52	6,970
9-----	2.68	1,590	2-----	29.9	68,800	4-----	14.59	20,400			
11 a.m.---	2.97	1,470	3-----	25.80	57,400	5-----	14.12	19,500	Aug. 21		
1 p.m.---	3.12	1,590	4-----	24.50	48,600	6-----	13.95	19,600	6 a.m.---	7.65	5,850
4-----	3.75	1,690	5-----	22.55	43,400	7-----	13.19	17,000	12 m.---	7.05	4,900
6-----	3.48	1,580	6-----	21.10	39,000	10-----	12.55	15,800	6 p.m.---	6.51	4,110
9-----	3.44	1,110	7-----	20.10	36,000	12-----	12.00	14,300	12-----	6.05	3,480
6-----	4.45	1,700	8-----	19.15	33,200						
7-----	4.45	1,700	9-----	18.40	30,900						
8-----	8.00	7,130									
9-----	15.00	21,400									

(267) Paulina Kill at Blairtown, N. J.

Location.--Lat 40°58'44", long 74°57'15", on right bank 1,200 ft upstream from bridge on State Highway 94 in Blairtown, Warren County, 1,400 ft upstream from Blairs Creek, and 10 miles upstream from mouth. Datum of gage is 335.86 ft above mean sea level, datum of 1929.

Drainage area.--126 sq mi.

Gage-height record.--Water-stage recorder graph except Aug. 19 (8 a.m. to 3 p.m.) for which graph was drawn on basis of adjoining graphs and high-water mark in gage house.

Discharge record.--Stage-discharge relation defined below 6,100 cfs and extended to peak stage on basis of slope-area determination.

Maxima.--August 1955: Discharge, 8,740 cfs 12 m. Aug. 19 (gage height, 11.12 ft, from high-water mark in gage house).

1921 to July 1955: Discharge, 4,480 cfs Sept. 22, 1936 (gage height, 7.56 ft).

Remarks.--Diurnal fluctuation caused by powerplant above station and flow slightly regulated by Swartswood Lake. Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	17	7	17	12	22	17	226	22	1,700	27	345
2	9.1	8	38	13	299	18	409	23	1,110	28	292
3	14	9	28	14	671	19	5,950	24	712	29	249
4	12	10	16	15	558	20	3,750	25	506	30	221
5	12	11	20	16	336	21	2,380	26	408	31	216
6	9.1										

Runoff, in inches..... 6.06

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 12			Aug. 15--Con.			Aug. 19--Con.			Aug. 20--Con.		
12 p.m.--	1.52	27	4 a.m.-----	3.12	648	2 a.m.-----	6.40	2,240	2 p.m.-----	7.60	3,560
			8-----	3.06	622	3-----	7.02	2,970	4-----	7.48	3,430
Aug. 13			12 m.-----	2.92	565	4-----	7.70	3,670	6-----	7.35	3,300
2 a.m.--	1.60	39	4 p.m.-----	2.82	524	5-----	8.40	4,480	8-----	7.20	3,150
4-----	1.71	60	8-----	2.64	446	6-----	9.10	5,390	10-----	7.07	3,070
6-----	1.89	107	12-----	2.58	419	7-----	9.56	6,040	12-----	6.95	2,900
8-----	2.04	158				8-----	10.0	6,700			
10-----	2.24	245	Aug. 16			9-----	10.4	7,380	Aug. 21		
12 m.-----	2.24	245	12 m.-----	2.40	331	10-----	10.8	8,160	4 a.m.-----	6.72	2,700
2 p.m.--	2.27	260	12 p.m.-----	2.28	265	11-----	11.1	8,700	8-----	6.51	2,530
4-----	2.30	275				12 m.-----	11.12	8,740	12 m.-----	6.28	2,350
6-----	2.72	482	Aug. 17			1 p.m.-----	11.1	8,700	4 p.m.-----	6.06	2,190
8-----	3.10	638	12 m.-----	2.20	225	2-----	10.9	8,310	8-----	5.85	2,040
10-----	3.28	710	8 p.m.-----	2.14	199	3-----	10.6	7,740	12-----	5.77	1,990
12-----	3.50	718	12-----	2.14	199	4-----	10.32	7,240			
						5-----	10.02	6,730	Aug. 22		
Aug. 14			Aug. 18			6-----	9.76	6,340	4 a.m.-----	5.66	1,910
2 a.m.--	3.29	714	4 p.m.-----	2.14	199	7-----	9.57	6,060	8-----	5.51	1,820
4-----	3.18	670	8-----	2.21	230	8-----	9.38	5,780	12 m.-----	5.38	1,740
6-----	3.08	630	12 m.-----	2.28	265	9-----	9.20	5,530	4 p.m.-----	5.14	1,590
8-----	3.02	606	4 p.m.-----	2.40	331	10-----	9.02	5,280	8-----	4.95	1,480
10-----	2.95	578	6-----	2.46	361	11-----	8.88	5,090	12-----	4.75	1,380
12 m.-----	2.86	541	7-----	2.62	437	12-----	8.74	4,910			
2 p.m.--	2.99	594	8-----	2.94	573				Aug. 23		
3-----	3.24	694	9-----	3.40	758	Aug. 20			4 a.m.-----	4.54	1,280
4-----	3.42	766	10-----	4.08	1,060	2 a.m.-----	8.50	4,600	8-----	4.36	1,190
5-----	3.45	778	11-----	4.80	1,410	4-----	8.30	4,360	12 m.-----	4.19	1,110
6-----	3.44	774	12-----	5.42	1,760	6-----	9.14	4,170	4 p.m.-----	3.99	1,020
8-----	3.39	754				8-----	8.00	4,000	8-----	3.82	937
10-----	3.29	714	Aug. 19			10-----	7.86	3,850	12-----	3.64	858
12-----	3.18	670	1 a.m.-----	5.94	2,110	12 m.-----	7.73	3,700			

NORTHEASTERN FLOODS OF AUGUST 1955

(271) Delaware River at Belvidere, N. J.

Location.--Lat 40°49'36", long 75°00'02", on left bank at Belvidere, Warren County, 1,500 ft downstream from Pequest River. Datum of gage is 226.43 ft above mean sea level, datum of 1929.

Drainage area.--4,535 sq mi.

Gage-height record.--Water-stage recorder graph except Aug. 19 (5 p.m.) to Aug. 20 (12 m.) when graph was drawn on basis of hourly wire-weight gage readings by Delaware River Joint Toll Bridge Commission and high-water mark in gage house.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 170,000 cfs and extended to peak stage on basis of slope-area determination.

Maxima.--August 1955: Discharge, 247,000 cfs 8 p.m. Aug. 19 (gage height, 30.21 ft, from high-water mark in gage house).

1922 to July 1955: Discharge, 179,000 cfs Mar. 19, 1936 (gage height, 25.0 ft).

Flood of Oct. 10, 1903, reached a stage of 28.6 ft, from floodmark (discharge, 220,000 cfs).

Remarks.--Flow regulated by Lake Wallenpaupack and by Pepacton, Toronto, Cliff Lake, Swinging Bridge, and Neversink Reservoirs (combined capacity, 36,932,000 cu ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	1,160	7	1,520	12	1,470	17	7,980	22	29,300	27	10,800
2	940	8	1,220	13	5,210	18	9,230	23	25,300	28	9,240
3	1,480	9	1,120	14	16,200	19	178,000	24	21,600	29	7,900
4	1,670	10	1,120	15	15,900	20	154,000	25	16,200	30	7,240
5	1,520	11	1,060	16	11,900	21	45,500	26	12,900	31	7,720
6	1,560										

Runoff, in inches..... 4.82

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 11 10 p.m.	2.71	1,170	Aug. 16--Con.	8.74	9,320	Aug. 19--10 a.m.	26.80	243,000	Aug. 21 2 a.m.	14.18	57,900
Aug. 12 4 a.m.	2.76	1,240	Aug. 17 8 a.m.	5.47	3,680	1 p.m.	27.80	212,000	4 a.m.	13.75	54,500
6 a.m.	2.81	1,300	12 m.	5.48	7,900	3 p.m.	28.22	221,000	6 a.m.	13.32	51,400
8 a.m.	2.84	1,290	6 p.m.	5.29	7,320	4 p.m.	28.80	228,000	8 a.m.	12.94	48,600
10 a.m.	2.87	1,340	12 m.	5.14	6,790	5 p.m.	29.2	234,000	10 a.m.	12.62	45,300
12 m.	2.94	1,400	Aug. 18 2 a.m.	5.16	6,440	6 p.m.	29.7	240,000	12 m.	12.30	44,100
Aug. 13 4 a.m.	3.04	1,460	4 a.m.	5.19	6,960	7 p.m.	30.3	244,000	2 p.m.	12.05	42,200
6 a.m.	3.10	1,500	6 a.m.	5.24	7,900	8 p.m.	30.21	247,000	4 p.m.	11.78	40,800
Aug. 14 4 a.m.	3.24	2,060	8 a.m.	5.28	7,470	9 p.m.	30.1	246,000	6 p.m.	11.55	38,800
6 a.m.	3.70	2,950	10 a.m.	5.37	7,740	10 p.m.	30.3	241,000	8 p.m.	11.30	37,100
8 a.m.	4.10	4,250	12 m.	5.40	7,700	11 p.m.	30.5	241,000	10 p.m.	11.10	35,700
10 a.m.	4.31	6,030	Aug. 19 1 a.m.	5.77	9,380	12 p.m.	30.5	240,000	12 p.m.	10.90	34,400
12 m.	4.59	9,920	3 a.m.	5.94	10,760	Aug. 20 1 a.m.	29.6	228,000	Aug. 22 4 a.m.	10.45	31,900
Aug. 15 4 a.m.	5.17	12,400	5 a.m.	5.95	10,800	2 a.m.	29.7	222,000	6 a.m.	10.16	30,000
6 a.m.	7.02	17,300	7 a.m.	5.97	9,890	3 a.m.	27.4	213,000	8 a.m.	9.92	28,500
8 a.m.	7.34	18,400	9 a.m.	6.04	10,200	4 a.m.	27.4	208,000	10 a.m.	9.83	28,000
10 a.m.	7.40	18,400	11 a.m.	6.09	11,200	5 a.m.	26.8	197,000	12 m.	9.70	27,500
12 m.	7.50	18,700	12 m.	6.70	13,800	6 a.m.	26.3	188,000	Aug. 23 4 a.m.	9.55	26,200
Aug. 16 4 a.m.	7.57	17,300	Aug. 19 1 a.m.	13.24	55,400	7 a.m.	26.1	184,000	6 a.m.	9.40	25,700
6 a.m.	7.57	17,300	3 a.m.	15.97	79,700	8 a.m.	25.1	174,000	8 a.m.	9.26	24,900
8 a.m.	7.57	17,300	5 a.m.	17.40	84,500	9 a.m.	24.1	164,000	10 a.m.	9.26	24,900
10 a.m.	7.57	17,300	7 a.m.	18.49	105,000	10 a.m.	23.2	150,000	12 m.	9.26	24,900
12 m.	7.57	17,300	9 a.m.	19.53	114,000	11 a.m.	22.4	141,000	Aug. 24 4 a.m.	8.95	23,200
Aug. 17 4 p.m.	7.27	15,000	11 a.m.	20.26	124,000	12 m.	21.5	134,000	6 a.m.	8.82	21,600
6 p.m.	7.27	14,000	12 m.	21.7	134,000	1 p.m.	20.7	124,000	8 p.m.	8.30	20,300
Aug. 18 4 a.m.	6.94	13,500	Aug. 19 1 a.m.	22.40	150,000	2 p.m.	19.8	116,000	10 p.m.	7.99	18,400
6 a.m.	6.94	13,500	3 a.m.	23.46	171,000	3 p.m.	18.8	106,000	Aug. 25 12 p.m.	7.51	16,000
8 a.m.	6.94	13,500	5 a.m.	24.4	171,000	4 p.m.	17.4	96,000	12 p.m.	7.09	14,200
10 a.m.	6.94	13,500	7 a.m.	25.8	190,000	5 p.m.	16.0	84,000			
			9 a.m.	25.8	190,000	6 p.m.	15.4	84,000			
			11 a.m.	25.8	190,000	7 p.m.	14.7	84,000			
			12 m.	25.8	190,000	8 p.m.	13.4	84,000			

(272) Lehigh River at Stoddartsville, Pa.

Location.--Lat 41°07'45", long 75°37'40", on left bank 75 ft upstream from concrete bridge on State Highway 115, at Stoddartsville, Luzerne County, 1.9 miles upstream from Tobyhanna Creek, and 4 miles southwest of Thornhurst. Datum of gage is 1,463.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Drainage area.--91.7 sq mi.

Gage-height record.--Water-stage recorder graph except for period Aug. 19, 20 when graph was drawn based on elevation of crest stage and partial gage-height record.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,700 cfs and extended to peak stage on basis of slope-area determination. Shifting-control method used at times.

Maxima.--August 1955: Discharge, 31,900 cfs 4 a.m. Aug. 19 (gage height 16.37 ft, from floodmarks).

1943 to July 1955: Discharge, 7,250 cfs (revised) Dec. 4, 1950 (gage height, 8.59 ft) from rating curve extended as explained above.

Flood of May 22, 1942, reached a stage of 12.03 ft, present site and datum (discharge, 15,700 cfs, revised, from rating curve extended as explained above).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	14	7	14	12	74	17	372	22	702	27	209
2	14	8	25	13	978	18	2,030	23	562	28	180
3	13	9	19	14	2,190	19	19,900	24	401	29	167
4	13	10	15	15	1,520	20	2,850	25	303	30	155
5	13	11	23	16	660	21	1,110	26	240	31	360
6	14										

Of, in inches..... 13.85

FLOOD DATA

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(272) Lehigh River at Stoddartsville, Pa.--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 15--Con.			Aug. 18--Con.			Aug. 19--Con.		
12 p.m.--	0.99	61	8-----	4.42	1,710	5-----	7.87	1,100	7-----	11.00	13,200
Aug. 13			12 m.-----	4.39	1,660	6-----	7.89	1,500	8-----	10.45	11,100
3 a.m.-----	1.08	76	4 p.m.-----	3.79	1,100	7-----	5.10	3,180	9-----	9.35	9,700
4-----	1.16	94	6-----	3.49	1,000	8-----	7.35	3,390	10-----	9.13	7,710
6-----	1.46	157	12-----	3.24	970	9-----	7.10	3,800	11-----	8.50	6,300
8-----	1.77	247	Aug. 16			10-----	8.71	7,470	12-----	8.35	5,300
10-----	2.07	439	6 a.m.-----	2.96	770	11-----	10.70	11,000			
12 p.m.-----	2.92	749	12 m.-----	2.71	650	12-----	12.45	17,000			
2 p.m.-----	5.63	1,160	6 p.m.-----	2.80	540	Aug. 19			Aug. 20		
4-----	4.34	1,640	12-----	2.41	430	7 a.m.-----	14.50	24,200	1-----	7.17	4,700
6-----	4.73	1,950	Aug. 17			8-----	16.50	28,400	2-----	7.44	4,180
8-----	4.90	2,100	12 m.-----	2.39	380	9-----	16.11	23,700	3-----	7.77	3,680
12-----	4.94	2,140	12 p.m.-----	1.93	200	10-----	16.40	21,000	4-----	6.43	2,600
Aug. 14			Aug. 18			11-----	15.46	20,100	4 p.m.-----	6.25	2,440
5 a.m.-----	5.07	2,250	2 a.m.-----	1.96	200	12-----	15.45	18,000	5-----	5.19	1,600
10-----	4.81	2,020	4-----	2.08	220	1-----	14.75	15,000	6-----	4.86	1,460
1 p.m.-----	4.87	1,910	6-----	2.24	400	2-----	14.50	14,000			
4-----	5.00	2,190	8-----	2.44	480	3-----	14.30	13,000			
7-----	5.26	2,450	10-----	2.64	560	4-----	14.00	12,000			
12-----	5.09	2,270	12 m.-----	2.86	640	5-----	13.55	11,000	Aug. 21		
Aug. 15			12 p.m.-----	2.86	640	6 p.m.-----	13.10	10,300	2 a.m.-----	4.55	1,240
4 a.m.-----	4.80	1,010	4-----	3.17	800	7-----	11.49	11,000	4-----	4.00	900
						8-----	11.90	10,500	6 p.m.-----	4.08	900
									8-----	4.85	1,400

(275) Lehigh River at Tannery, Pa.

Location.--Lat 41°02'25", long 75°45'45", on right bank 600 ft upstream from highway bridge at Tannery, Luzerne County, 1½ miles upstream from Black Creek. Datum of gage is 1,042.06 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Drainage area.--322 sq mi.

Gage-height record.--Water-stage recorder graph except for period Aug. 17-24 when graph was reconstructed on basis of floodmarks and hydrographic comparison with upstream and downstream stations.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 7,100 cfs and extended above on basis of slope-area determination at peak stage made at White Haven, 2 miles upstream (discharge, 57,300 cfs), Aug. 22-24 discharge estimated on basis of records for upstream and downstream stations. Shifting-control method used at times.

Maxima.--August 1955: Discharge, 58,300 cfs 5 a.m. Aug. 19 (gage height 22.2 ft, from floodmark).

1914 to July 1955: Discharge, 29,600 cfs May 22, 1942 (gage height, 16.51 ft), from computation of peak flow over dam.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	66	7	74	13	154	19	2,200	25	2,200	31	2,200
2	66	8	88	14	1,270	20	2,740	26	1,100		
3	64	9	94	15	8,140	21	26,000	27	1,250		
4	64	10	74	16	4,100	22	4,000	28	914		
5	68	11	96	17	2,740	23	1,240	29	700		
6	74							30			

Runoff, in inches.....

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 14--Con.			Aug. 16--Con.			Aug. 18--Con.		
12 p.m.--	1.35	138	8-----	7.35	5,000	12-----	3.37	1,100	7-----	19.48	20,000
Aug. 13			10-----	7.38	5,400	12 m.-----	3.92	1,500	8-----	14.00	23,000
3 a.m.-----	1.55	138	12-----	7.26	5,700	2 p.m.-----	3.72	2,000	9-----	14.25	21,000
6-----	1.44	175	Aug. 15			4-----	4.03	2,500	10-----	13.70	20,000
10-----	1.56	234	4 a.m.-----	6.30	5,000	6-----	4.30	2,500	11-----	10.15	16,400
12 m.-----	1.78	364	6-----	6.28	4,610	8-----	4.50	2,400	12-----	12.07	17,000
1 p.m.-----	2.15	632	12 m.-----	6.16	4,000	10-----	5.00	4,240			
2-----	2.59	982	4 p.m.-----	6.16	3,600	11-----	4.75	5,400	Aug. 20		
3-----	3.02	1,360	6-----	4.97	5,000	12-----	4.11	6,000	2 a.m.-----	11.24	13,200
4-----	3.45	1,750	12-----	4.65	2,400				4-----	10.86	11,000
5-----	3.90	2,180	Aug. 16						6-----	9.77	8,000
6-----	4.22	2,480	4 a.m.-----	4.36	2,410	Aug. 19			8-----	9.10	7,700
7-----	4.54	2,790	6-----	4.40	2,400	2 a.m.-----	13.4	13,000	10-----	8.80	7,690
8-----	4.78	3,030	10-----	3.95	2,220	4-----	17.40	34,000	12 m.-----	6.22	7,130
9-----	5.25	3,500	12 m.-----	3.40	2,000	6-----	16.11	40,000	2 p.m.-----	7.00	6,000
10-----	5.90	4,190	4 p.m.-----	3.40	1,700	8-----	21.00	54,100	4-----	7.40	6,000
11-----	6.55	4,920	12-----	2.30	1,000	10-----	22.2	60,000	6-----	7.12	5,000
12-----	6.98	5,440	Aug. 17			12-----	22.2	60,000	8-----	6.55	4,920
Aug. 14			6 a.m.-----	2.95	1,100				10-----	6.01	4,000
1 a.m.-----	7.25	5,780	8-----	2.90	1,100	Aug. 18			Aug. 21		
2-----	7.44	6,020	12 m.-----	2.90	1,100	2 a.m.-----	13.4	13,000	2 a.m.-----	11.24	13,200
3-----	7.55	6,160	4 p.m.-----	2.74	1,110	4-----	17.40	34,000	4-----	10.86	11,000
4-----	7.82	6,540	12-----	2.70	1,100	6-----	19.70	44,000	6-----	9.77	8,000
5-----	7.93	6,700	Aug. 18			8-----	19.8	40,000	8-----	9.10	7,700
6-----	7.97	6,760	1 a.m.-----	2.90	1,100	10-----	18.65	30,000	10-----	8.80	7,690
7-----	7.91	6,660	3-----	2.90	1,150	12-----	17.0	24,000	12 m.-----	6.22	7,130
8-----	7.50	6,100	5-----	2.90	1,100				2 p.m.-----	7.00	6,000
12 m.-----	7.32	5,870	7-----	2.90	1,100				4-----	7.40	6,000
2 p.m.-----	7.43	6,010	9-----	2.90	1,100				6-----	6.55	4,920
4-----									8-----	6.01	4,000

NORTHEASTERN FLOODS OF AUGUST 1955

(280) Lehigh River at Walnutport, Pa.

Location.--Lat 40°45'20", long 75°36'15", on left bank 0.3 mile upstream from highway bridge at Walnutport, Northampton County, and 0.4 mile upstream from Trout Creek. Datum of gage is 350.27 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Drainage area.--889 sq mi.

Gage-height record.--Water-stage recorder graph except for 15 hours on Aug. 19 when graph was drawn on basis of floodmark of peak and fragmentary gage-height record.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 60,000 cfs and extended to peak stage on basis of logarithmic plotting.

Maxima.--August 1955: Discharge, 77,800 cfs 8:30 a.m. Aug. 19 (gage height, 17.68 ft, from floodmark).

1946 to July 1955: Maximum discharge, 46,000 cfs Dec. 4, 1950 (gage height, 12.66 ft).

Maximum stage known, 20.6 ft May 23, 1942, from floodmarks.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	229	7	236	12	462	17	2,400	22	5,950	27	2,150
2	224	8	265	13	3,560	18	12,800	23	4,890	28	1,900
3	212	9	250	14	10,900	19	62,400	24	3,630	29	1,730
4	212	10	228	15	7,150	20	18,200	25	2,080	30	1,630
5	216	11	343	16	3,690	21	8,880	26	2,420	31	2,930
6	220										

Runoff, in inches..... 6.83

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 12			Aug. 14--Con.			Aug. 18--Con.			Aug. 19--Con.		
12 p.m.---	2.12	585	8-----	5.10	10,500	10-----	3.90	3,650	5-----	13.60	50,500
Aug. 13			12-----	5.93	9,820	12 m.---	4.34	4,490	6-----	13.00	46,900
2 a.m.---	2.10	525	Aug. 15			2 p.m.---	4.67	5,620	7-----	12.35	43,000
4-----	2.32	746	8 a.m.---	5.49	9,460	3-----	4.89	6,540	8-----	11.80	39,800
6-----	2.69	1,290	12 m.---	5.08	7,050	4-----	5.58	8,870	9-----	11.53	37,200
8-----	3.14	2,080	6 p.m.---	4.69	6,770	5-----	6.69	13,500	10-----	10.92	35,000
10-----	3.49	2,710	12-----	4.37	4,840	6-----	7.75	18,400	11-----	10.46	32,400
12 m.---	3.74	3,270	Aug. 16			7-----	8.50	22,100	12-----	10.10	30,400
2 p.m.---	3.91	3,670	8 a.m.---	4.10	4,140	8-----	9.51	27,200			
4-----	4.14	4,240	12 m.---	3.87	3,580	9-----	10.33	31,900	Aug. 20		
6-----	4.49	5,170	6 p.m.---	3.70	3,180	10-----	11.55	38,400	2 a.m.---	9.45	26,900
8-----	4.88	6,340	12-----	3.56	2,960	11-----	14.57	56,300	4-----	8.95	24,400
10-----	5.35	7,960	Aug. 17			12-----	16.55	69,800	6-----	8.45	21,800
12-----	6.64	9,080	12 m.---	3.29	2,300	Aug. 19			8-----	8.05	19,800
Aug. 14			12 p.m.---	3.20	2,130	2 a.m.---	17.20	74,400	12 m.---	7.46	16,900
2 a.m.---	6.08	10,700	Aug. 18			4-----	17.50	77,500	4 p.m.---	6.97	14,700
4-----	6.15	11,100	1 a.m.---	3.21	2,150	6:30-----	17.68	77,800	6-----	6.56	12,900
6-----	6.16	11,100	3-----	4.31	2,340	8-----	17.92	77,200	12-----	6.24	11,500
8-----	6.23	11,400	6-----	5.57	2,980	10-----	17.55	75,400	Aug. 21		
10-----	6.20	11,300	8-----	3.61	3,430	12 m.---	18.95	72,600	2 a.m.---	5.65	9,900
12 m.---	6.23	11,400				2 p.m.---	18.50	68,100	10 m.---	5.55	8,700
4 p.m.---	6.15	11,100				3-----	18.55	62,800	6 p.m.---	5.37	7,700
						4-----	14.55	56,200	12-----	5.66	6,960

FLOOD DATA

69

(294) Lehigh River at Bethlehem, Pa.

Location.--Lat 40°37'05", long 75°21'55", on left bank 1,650 ft upstream from Minsi Trail Bridge at Bethlehem, Northampton County, and 2,400 ft downstream from Monocacy Creek. Datum of gage is 208.45 ft above mean sea level, datum of 1929.

Drainage area.--1,279 sq mi.

Gage-height record.--Water-stage recorder graph except for period Aug. 19-24 when graph was drawn on basis of flood mark in gage shelter, engineer's staff gage readings, and wire-weight gage readings furnished by the U. S. Weather Bureau.

Discharge.--Stage-discharge relation defined by current-meter measurements below 50,000 cfs and extended to peak stage.

Shifting-control method used at times.

Maxima.--August 1955: Discharge, 91,300 cfs 10 a.m. Aug. 19 (gage height, 23.38 ft, from floodmark).

1902-05, 1909 to July 1955: Discharge, 92,000 cfs May 23, 1942 (gage height, 23.47 ft).

Flood of Feb. 29, 1902 reached a stage of 24.9 ft, from floodmark, site and datum in use in September 1902 (discharge about 88,000 cfs).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	463	7	528	12	1,200	17	3,240	22	5,550	27	2,890
2	446	8	633	13	4,500	18	9,890	23	4,870	28	2,650
3	436	9	504	14	12,700	19	10,400	24	4,150	29	2,370
4	436	10	468	15	9,570	20	22,800	25	3,750	30	2,250
5	441	11	557	16	5,140	21	10,700	26	3,220	31	3,260
6	441										

Runoff, in inches..... 4.84

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 12			Aug. 15--Con.			Aug. 19			Aug. 20--Con.		
12 p.m.--	2.70	1,390	12-----	5.00	5,570	1 a.m.--	14.00	44,000	2-----	12.92	17,500
Aug. 13			Aug. 16			2-----	15.40	48,200	3-----	12.30	54,500
2 a.m.--	3.12	1,760	7 a.m.--	4.70	6,700	3-----	16.40	53,000	4-----	11.70	31,900
4-----	3.72	2,950	12 m.--	4.52	6,520	4-----	16.30	51,100	5-----	11.18	25,600
6-----	4.00	3,620	5 p.m.--	4.32	4,400	5-----	21.00	77,800	6-----	10.68	7,500
8-----	3.81	3,150	12-----	4.12	3,900	6-----	22.20	84,400	7-----	10.00	1,000
10-----	4.06	3,780				7-----	22.30	86,400	8-----	9.44	1,000
12 m.--	4.43	4,780	Aug. 17			8-----	23.20	90,200	9 p.m.--	8.60	10,000
4 p.m.--	4.72	5,580	2 a.m.--	4.00	3,520	9-----	23.45	91,100	4 p.m.--	8.20	1,000
6-----	4.98	6,340	12 m.--	3.94	3,230	10-----	23.45	91,300	6-----	7.73	15,400
12-----	5.43	7,760	10 p.m.--	3.66	2,410	11-----	24.22	93,500	12-----	7.32	15,900
Aug. 14			Aug. 18			12 m.--	24.00	94,200			
4 a.m.--	6.12	10,500	3 a.m.--	4.60	3,320	1 p.m.--	24.00	94,100	Aug. 21		
6-----	6.77	12,900	6 a.m.--	5.80	6,250	2-----	24.00	95,200	2 a.m.--	6.84	11,300
10-----	7.00	13,800	9-----	4.15	4,010	3-----	24.00	95,400	12 m.--	6.46	10,400
12 m.--	7.00	13,800	12 m.--	4.00	4,000	4-----	24.00	97,500	6 p.m.--	6.17	3,100
2 p.m.--	7.19	14,600	4 p.m.--	4.05	4,000	5-----	24.00	97,800	12-----	5.34	5,530
4-----	7.23	14,700	5-----	6.10	10,200	6-----	24.00	97,800			
6-----	6.95	13,600	8-----	6.50	11,500	7-----	24.00	97,800	Aug. 22		
12-----	6.73	12,700	7-----	7.11	14,200	8-----	24.00	97,800	12 m.--	5.52	6,680
Aug. 15			8-----	6.21	10,000	9-----	24.00	97,800	12 p.m.--	5.14	5,670
2 a.m.--	6.37	11,300	9-----	10.00	20,000	10-----	24.00	97,800			
12 m.--	6.95	9,640	10-----	11.40	21,400	11-----	24.00	97,800	Aug. 23		
6 p.m.--	5.52	8,070	11-----	10.30	18,000	12-----	24.00	97,800	12 m.--	4.93	4,790
			12-----	12.35	20,000	Aug. 20			12 p.m.--	4.61	4,700
						1 a.m.--	14.00	44,000			

(287) Musconetcong River near Bloomsbury, N. J.

Location.--Lat 40°40'20", long 75°03'40", on right bank just downstream from highway bridge, 1½ miles upstream from Bloomsbury, Hunterdon County, and 9½ miles upstream from mouth. Datum of gage is 274.83 ft above mean sea level, datum of 1929.

Drainage area.--143 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,800 cfs and extended to peak stage on basis of slope-area determination.

Maxima.--August 1955: Discharge, 4,430 cfs 9 a.m. Aug. 19 (gage height, 6.95 ft).

1921 to July 1955: Discharge, 5,760 cfs (revised) Mar. 15, 1940 (gage height, 7.55 ft).

Remarks.--Flow regulated by Lake Hopatcong (usable capacity, 800,000,000 cu ft).

Diurnal fluctuation caused by small powerplants above station.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	40	7	21	12	132	17	335	22	1,250	27	451
2	35	8	48	13	858	18	630	23	928	28	376
3	31	9	44	14	674	19	2,890	24	734	29	342
4	32	10	46	15	476	20	2,390	25	594	30	305
5	39	11	40	16	385	21	1,720	26	500	31	290
6	32										

Runoff, in inches..... 4.34

Gage height, in feet, and discharge in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 14--Con.			Aug. 18--Con.			Aug. 19--Con.		
12 p.m.--	1.68	191	6-----	2.85	648	1 a.m.-----	2.41	459	2 p.m.-----	5.92	2,730
			8-----	2.88	661	2-----	2.65	560	4-----	5.77	2,570
Aug. 13			10-----	2.83	638	3-----	2.80	625	6-----	5.57	2,360
1 a.m.-----	1.7	187	12 m.-----	2.80	625	4-----	2.81	630	7-----	5.54	2,330
2-----	1.75	207	2 p.m.-----	2.98	706	5-----	2.66	564	8-----	5.57	2,360
3-----	1.90	265	3-----	3.30	860	6-----	2.56	522	10-----	5.68	2,470
4-----	2.35	435	4-----	3.35	885	7-----	2.46	479	12 m.-----	5.81	2,610
5-----	2.77	612	6-----	3.06	742	8-----	2.45	475			
6-----	2.95	692	8-----	2.91	674	2 p.m.-----	2.51	500			
7-----	3.21	815	10-----	2.75	602	4-----	2.49	491	Aug. 20		
8-----	3.34	880	12-----	2.65	560	6-----	2.48	487	5 a.m.-----	5.85	2,660
9-----	3.50	960				7-----	2.50	495	6-----	5.79	2,590
10-----	4.00	1,240	Aug. 15			8-----	2.90	670	12 m.-----	5.62	2,410
11-----	4.21	1,360	6 a.m.-----	2.50	495	9-----	3.45	935	6 p.m.-----	5.43	2,220
12 m.-----	4.20	1,350	12 m.-----	2.44	471	10-----	3.90	1,180	12-----	5.21	2,020
1 p.m.-----	4.15	1,320	6 p.m.-----	2.38	447	11-----	4.35	1,440			
3-----	4.12	1,300	12-----	2.32	425	12-----	4.65	1,620	Aug. 21		
5-----	4.06	1,270							6 a.m.-----	5.02	1,870
4-----	3.98	1,230	Aug. 16			Aug. 19--Con.			12 m.-----	4.82	1,730
5-----	3.85	1,160	12 m.-----	2.22	384	1 a.m.-----	4.95	1,820	6 p.m.-----	4.55	1,560
6-----	3.68	1,060	12 p.m.-----	2.13	349	2-----	5.25	2,060	12-----	4.37	1,450
7-----	3.45	935				3-----	5.65	2,440			
8-----	3.23	825	Aug. 17			4-----	6.12	2,990	Aug. 22		
9-----	3.05	738	12 m.-----	2.04	316	5-----	6.42	3,430	6 a.m.-----	4.22	1,360
10-----	2.93	684	3 p.m.-----	1.97	290	6-----	6.55	3,610	12 m.-----	3.99	1,230
11-----	2.85	648	4-----	2.08	331	7-----	6.59	3,720	6 p.m.-----	3.83	1,140
12-----	2.82	634	6-----	2.09	334	8-----	6.87	4,260	12-----	3.67	1,060
Aug. 14			8-----	2.14	353	9-----	6.95	4,430			
2 a.m.-----	2.81	630	10-----	2.15	357	10-----	6.77	4,060	Aug. 23		
4-----	2.84	643	12-----	2.30	415	11-----	6.47	3,510	12 m.-----	3.41	915
						12 m.-----	6.20	3,100	12 p.m.-----	3.22	820

FLOOD DATA

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(288) Delaware River at Riegelsville, N. J.

Location.--Lat 40°35'36", long 75°11'17", on left bank 20 ft upstream from suspension bridge at Riegelsville, Warren County, and 600 ft upstream from Musconetcong River. Records include flow of Musconetcong River. Datum of gage is 125.12 ft above mean sea level, datum of 1929.

Drainage area.--6,328 sq mi (includes that of Musconetcong River).

Gage-height record.--Water-stage recorder graph except Aug. 19 (12 m.) to Aug. 25 (11 a.m.) for which graph was drawn on basis of hourly readings by New Jersey Power & Light Company 3.5 miles downstream and floodmark.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 160,000 cfs. Discharge records being held pending completion of a basin study.

Maxima.--August 1955: Gage height, 38.85 (from floodmark) 1 a.m. Aug. 20.

1906 to July 1955: Discharge, 210,000 cfs Mar. 19, 1936 (gage height, 32.45 ft).

Flood of Oct. 10, 1903, reached a stage of 35.9 ft, from floodmarks (discharge, about 275,000 cfs).

Remarks.--Diversion above station to Delaware Division Canal. Flow regulated by Lakes Hopatcong and Wallenpaupack and by Pepacton, Toronto, Cliff Lake, Swinging Bridge, and Neversink Reservoirs (combined capacity, 37,732,000 cu ft).

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	*Dis-charge	Time	Gage height	*Dis-charge	Time	Gage height	*Dis-charge	Time	Gage height	*Dis-charge
<u>Aug. 11</u>			<u>Aug. 16--Con.</u>			<u>Aug. 19--Con.</u>			<u>Aug. 20--Con.</u>		
12 p.m.---	2.37		12 m.-----	7.54		11-----	32.00		8-----	24.2	
<u>Aug. 12</u>			6 p.m.-----	6.93		12 m.-----	32.7		9-----	23.5	
4 a.m.-----	2.50		12-----	6.41		1 p.m.-----	33.2		10-----	27.9	
8-----	2.60		<u>Aug. 17</u>			2-----	34.0		11-----	22.4	
12 m.-----	3.36		6 a.m.-----	6.00		3-----	34.8		12-----	22.0	
4 p.m.-----	3.31		12 m.-----	5.76		4-----	35.6		<u>Aug. 21</u>		
8-----	3.16		6 p.m.-----	5.56		5-----	36.3		4-----	20.0	
12-----	3.11		12-----	5.28		6-----	37.0		8-----	18.4	
<u>Aug. 13</u>			<u>Aug. 18</u>			7-----	37.5		12 m.-----	17.2	
4 a.m.-----	3.56		4 a.m.-----	5.31		8-----	37.9		4 p.m.-----	16.2	
8-----	4.80		8-----	5.51		9-----	38.2		8-----	15.5	
12 m.-----	5.56		12 m.-----	5.62		10-----	38.4		12-----	15.0	
4 p.m.-----	6.00		2 p.m.-----	5.78		11-----	38.6		<u>Aug. 22</u>		
8-----	6.40		4-----	6.04		12-----	38.7		12 m.-----	13.6	
12-----	7.26		6-----	6.45		<u>Aug. 20</u>			12 p.m.-----	12.6	
<u>Aug. 14</u>			7-----	7.00		1 a.m.-----	38.85		<u>Aug. 23</u>		
4 a.m.-----	7.72		8-----	7.90		2-----	38.8		12 m.-----	11.8	
8-----	8.75		9-----	8.65		3-----	38.5		12 p.m.-----	11.4	
12 m.-----	10.22		10-----	9.30		4-----	38.2		<u>Aug. 24</u>		
4 p.m.-----	10.76		11-----	10.25		5-----	37.7		12 m.-----	10.4	
8-----	10.65		12-----	11.50		6-----	37.2		12 p.m.-----	9.2	
12-----	10.17		<u>Aug. 19</u>			7-----	36.6		<u>Aug. 25</u>		
<u>Aug. 15</u>			1 a.m.-----	12.90		8-----	35.9		12 m.-----	8.52	
4 a.m.-----	9.68		2-----	14.20		9-----	35.0		6 p.m.-----	8.04	
8-----	9.72		3-----	16.00		10-----	34.2		12-----	7.74	
12 m.-----	9.65		4-----	19.30		11-----	33.7		<u>Aug. 26</u>		
4 p.m.-----	9.36		5-----	22.10		12 m.-----	33.2		8 a.m.-----	7.43	
8-----	8.88		6-----	24.70		1 p.m.-----	31.5		12 m.-----	7.17	
12-----	8.44		7-----	26.70		2-----	30.0		6 p.m.-----	6.97	
<u>Aug. 16</u>			8-----	28.50		3-----	29.0		12-----	6.78	
6 a.m.-----	8.01		9-----	29.80		4-----	28.0				
			10-----	30.90		5-----	27.0				
						6-----	26.0				
						7-----	25.0				

* Discharge records being held pending completion of a basin study.

(289) Tohickon Creek near Pipersville, Pa.

Location.--Lat 40°26'00", long 75°07'00", on right bank at highway bridge, 1.5 miles northeast of Pipersville, Bucks County, and 4.5 miles upstream from mouth. Datum of gage is 258.96 ft above mean sea level, datum of 1929 (tentative adjustment).

Drainage area.--57.4 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,600 cfs and extended to peak stage on basis of slope-area determination at gage height 10.48 ft. Shifting-control method at times.

Maxima.--August 1955: Discharge, 16,000 cfs 12 p.m. Aug. 18 (gage height, 11.26 ft).
1935 to July 1955: Discharge, 13,700 cfs Aug. 3, 1942 (gage height, 10.48 ft), on basis of slope-area determination.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	0.5	7	0.5	12	166	17	73	22	553	27	31
2	.4	8	2.7	13	6,090	18	2,350	23	170	28	24
3	.5	9	4.2	14	1,650	19	3,740	24	78	29	18
4	.5	10	3.5	15	303	20	526	25	52	30	17
5	.5	11	5.5	16	128	21	127	26	38	31	19
6	.5										

Runoff, in inches..... 6.10

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge	Time	Gage height	Discharge
Aug. 11			Aug. 14			Aug. 18--Con.			Aug. 30--Con.		
10 p.m.	3.88	5.3	4 a.m.	5.94	4,700	10 p.m.	3.14	790	9 p.m.	2.57	340
Aug. 12			4 p.m.	5.47	2,340	11 p.m.	3.01	700	8 p.m.	2.40	290
5 a.m.	3.83	4.7	6 p.m.	4.97	2,490	12 p.m.	2.90	474	7 p.m.	2.28	204
8 a.m.	3.89	6.0	8 a.m.	4.51	1,890	1 p.m.	2.59	353	6 p.m.	2.10	187
9 a.m.	1.12	13	10 a.m.	4.11	1,500	2 p.m.	2.44	264			
11 a.m.	1.32	24	12 p.m.	3.74	1,170	3 p.m.	2.52	313			
3 p.m.	1.39	29	1 p.m.	3.17	820	4 p.m.	2.39	3,600	Aug. 31		
4 p.m.	1.53	47	2 p.m.	2.86	440	5 p.m.	2.78	10,400	11 a.m.	1.90	101
5 p.m.	1.95	128	3 p.m.	2.80	474	6 p.m.	2.88	12,400	10 p.m.	1.81	97
7 p.m.	2.12	173	4 p.m.	2.85	474	7 p.m.	10.28	15,000	1 a.m.	1.60	140
8 p.m.	2.30	230	5 p.m.	2.85	474	8 p.m.	11.36	16,000			
9 p.m.	2.74	437	6 p.m.	2.85	474				Aug. 32		
10 p.m.	3.34	865	7 p.m.	2.85	474	Aug. 13			1 a.m.	3.30	635
11 p.m.	3.67	1,090	8 p.m.	2.85	474	2 a.m.	10.73	14,400	9 a.m.	4.17	1,580
12 p.m.	3.93	1,300	9 p.m.	2.85	474	3 a.m.	9.66	11,400	10 a.m.	4.50	1,680
Aug. 13			10 p.m.	2.85	474	4 a.m.	8.66	9,640	11 a.m.	5.87	1,790
1 a.m.	4.19	1,570	11 p.m.	2.85	474	5 a.m.	7.58	6,400	12 p.m.	3.38	895
2 a.m.	4.68	1,930	12 p.m.	2.85	474	6 a.m.	6.27	4,240	1 a.m.	3.03	850
3 a.m.	5.46	3,050	1 p.m.	2.85	474	7 a.m.	5.61	3,300	2 a.m.	2.74	437
4 a.m.	6.61	4,900	2 p.m.	2.85	474	8 a.m.	5.19	1,880	3 a.m.	2.57	344
5 a.m.	7.30	6,090	3 p.m.	2.85	474	9 a.m.	4.70	2,100	4 a.m.	2.42	275
6 a.m.	6.18	7,310	4 p.m.	2.85	474	10 a.m.	4.57	1,750	5 a.m.	2.57	324
7 a.m.	7.99	7,400	5 p.m.	2.85	474	11 a.m.	4.66	1,450	6 a.m.	1.72	405
8 a.m.	8.12	7,670	6 p.m.	2.85	474	12 p.m.	2.90	1,200	7 a.m.	2.52	346
9 a.m.	9.61	8,780	7 p.m.	2.85	474	1 p.m.	2.50	1,100	8 a.m.	1.44	284
10 a.m.	8.01	7,490	8 p.m.	2.85	474	2 p.m.	2.35	700			
11 a.m.	7.44	6,290	9 p.m.	2.85	474	3 p.m.	2.35	650	Aug. 33		
12 p.m.	6.98	5,430	10 p.m.	2.85	474	4 p.m.	2.35	500	1 a.m.	2.27	304
1 p.m.	6.44	4,500	11 p.m.	2.85	474	5 p.m.	2.35	400	2 p.m.	2.32	145
			12 p.m.	2.85	474	6 p.m.	2.35	400	3 p.m.	1.93	101

(290) Delaware River at Trenton, N. J.

Location.--Lat 40°13'15", long 74°46'38" on left bank 450 ft upstream from Calhoun Street bridge at Trenton, Mercer County, and half a mile upstream from Assumpink Creek. Datum of gage is 7.77 ft above mean sea level, datum of 1929.

Drainage area.--6,790 sq mi.

Gage-height record.--Water-stage recorder graph except for Aug. 19 (10 a.m.) to Aug. 23 (1 p.m.) for which graph was drawn based on hourly wire-weight gage readings by Delaware River Joint Toll Bridge Commission and high-water mark in gage house.

Discharge record.--Stage-discharge relation defined by current-meter measurements to 230,000 cfs and extended to peak stage by logarithmic plotting.

Maxima.--August 1955: Discharge, about 329,000 cfs 6-7 a.m. Aug. 20 (gage height, 20.83 ft, from high-water mark in gage house).

1913 to July 1955: Discharge, 227,000 cfs Mar. 19, 1936 (gage height, 16.66 ft).

Maximum stage known, 22.8 ft Mar. 8, 1904, from floodmark (ice jam). Flood of Oct. 11, 1903, reached a stage of about 20.7 ft (discharge estimated, 295,000 cfs).

Remarks.--Diversion above station to Delaware & Raritan Canal. Flow regulated by Lakes Hopatcong and Wallenpaupack, and by Pepacton, Toronto, Cliff Lake, Swinging Bridge, and Neversink Reservoirs (combined capacity, 37,732,000,000 cu ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	1,900	7	2,340	12	3,870	17	15,600	22	50,700	27	17,000
2	1,900	8	2,880	13	28,500	18	16,900	23	37,800	28	14,600
3	1,620	9	2,480	14	28,400	19	163,000	24	53,800	29	12,600
4	1,750	10	1,920	15	33,300	20	281,000	25	26,000	30	11,600
5	2,220	11	2,120	16	23,500	21	88,100	26	20,500	31	11,000
6	2,160										

Runoff, in inches..... 5.10

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 11			Aug. 17--con.			Aug. 23			Aug. 29		
12 p.m.	0.00	2,290	1 p.m.	1.44	17,400	7 a.m.	12.81	50,100	4 a.m.	7.11	29,600
Aug. 12			Aug. 18			8 a.m.	12.50	48,000	5 a.m.	7.00	27,300
4 a.m.	.03	2,100	4 a.m.	1.40	17,400	9 a.m.	12.18	45,000	6 a.m.	6.87	26,700
8 a.m.	.07	2,400	8 a.m.	1.47	17,900	10 a.m.	11.86	42,000	7 a.m.	6.75	26,100
12 m.	.26	3,050	12 m.	1.73	18,900	11 a.m.	11.54	39,000	8 a.m.	6.63	25,500
4 p.m.	.51	3,910	4 p.m.	1.73	18,900	12 m.	11.22	36,000	9 a.m.	6.50	24,900
8 p.m.	1.00	5,710	8 p.m.	1.96	19,800	1 p.m.	10.90	33,000	10 a.m.	6.38	24,300
12 m.	1.76	9,350	10 p.m.	1.96	19,800	2 p.m.	10.58	30,000	11 a.m.	6.25	23,700
Aug. 13			11 p.m.	1.41	14,700	3 p.m.	10.26	27,000	12 m.	6.13	23,100
4 a.m.	1.30	12,500	12 m.	1.00	9,700	4 a.m.	9.94	24,000	1 a.m.	6.00	22,500
8 a.m.	5.02	15,500	Aug. 14			5 a.m.	9.62	21,000	2 a.m.	5.88	21,900
12 m.	5.61	41,700	1 a.m.	9.30	18,000	6 a.m.	9.30	18,000	3 a.m.	5.75	21,300
4 a.m.	5.53	40,800	2 a.m.	8.98	15,000	7 a.m.	8.98	15,000	4 a.m.	5.62	20,700
8 a.m.	5.05	16,600	3 a.m.	8.66	12,000	8 a.m.	8.66	12,000	5 a.m.	5.50	20,100
12 m.	4.30	29,100	4 a.m.	8.34	9,000	9 a.m.	8.34	9,000	6 a.m.	5.37	19,500
Aug. 14			5 a.m.	8.02	6,000	10 a.m.	8.02	6,000	7 a.m.	5.25	18,900
4 a.m.	3.07	12,600	6 a.m.	7.70	3,000	11 a.m.	7.70	3,000	8 a.m.	5.12	18,300
8 a.m.	3.79	13,000	7 a.m.	7.38	0	12 m.	7.38	0	9 a.m.	5.00	17,700
12 m.	3.94	24,800	8 a.m.	7.06	0	1 p.m.	7.06	0	10 a.m.	4.87	17,100
4 p.m.	4.45	22,500	9 a.m.	6.74	0	2 p.m.	6.74	0	11 a.m.	4.75	16,500
8 p.m.	5.29	28,200	10 a.m.	6.42	0	3 p.m.	6.42	0	12 m.	4.62	15,900
12 m.	5.40	39,400	11 a.m.	6.10	0	4 a.m.	6.10	0	1 a.m.	4.50	15,300
Aug. 15			12 m.	5.78	0	5 a.m.	5.78	0	2 a.m.	4.37	14,700
4 a.m.	5.17	24,300	1 a.m.	5.46	0	6 a.m.	5.46	0	3 a.m.	4.25	14,100
8 a.m.	4.96	36,100	2 a.m.	5.14	0	7 a.m.	5.14	0	4 a.m.	4.12	13,500
12 m.	4.77	52,700	3 a.m.	4.82	0	8 a.m.	4.82	0	5 a.m.	4.00	12,900
4 p.m.	4.66	51,500	4 a.m.	4.50	0	9 a.m.	4.50	0	6 a.m.	3.87	12,300
8 p.m.	4.57	50,700	5 a.m.	4.18	0	10 a.m.	4.18	0	7 a.m.	3.75	11,700
12 m.	4.37	20,700	6 a.m.	3.86	0	11 a.m.	3.86	0	8 a.m.	3.62	11,100
Aug. 16			7 a.m.	3.54	0	12 m.	3.54	0	9 a.m.	3.50	10,500
4 a.m.	4.01	25,500	8 a.m.	3.22	0	1 a.m.	3.22	0	10 a.m.	3.37	9,900
8 a.m.	3.72	23,100	9 a.m.	2.90	0	2 a.m.	2.90	0	11 a.m.	3.25	9,300
12 m.	3.52	11,400	10 a.m.	2.58	0	3 a.m.	2.58	0	12 m.	3.12	8,700
12 m.	3.22	19,000	11 a.m.	2.26	0	4 a.m.	2.26	0	1 a.m.	3.00	8,100
Aug. 17			12 m.	1.94	0	5 a.m.	1.94	0	2 a.m.	2.87	7,500
4 a.m.	2.97	16,800	1 a.m.	1.62	0	6 a.m.	1.62	0	3 a.m.	2.75	6,900
8 a.m.	2.68	15,100	2 a.m.	1.30	0	7 a.m.	1.30	0	4 a.m.	2.62	6,300
12 p.m.	2.54	21,100	3 a.m.	0.98	0	8 a.m.	0.98	0	5 a.m.	2.50	5,700
			4 a.m.	0.66	0	9 a.m.	0.66	0	6 a.m.	2.37	5,100
			5 a.m.	0.34	0	10 a.m.	0.34	0	7 a.m.	2.25	4,500
			6 a.m.	0.02	0	11 a.m.	0.02	0	8 a.m.	2.12	3,900
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	2.00	3,300
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	1.87	2,700
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	1.75	2,100
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	1.62	1,500
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	1.50	900
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	1.37	300
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	1.25	0
			2 a.m.	0.00	0	7 a.m.	0.00	0	4 a.m.	1.12	0
			3 a.m.	0.00	0	8 a.m.	0.00	0	5 a.m.	1.00	0
			4 a.m.	0.00	0	9 a.m.	0.00	0	6 a.m.	0.87	0
			5 a.m.	0.00	0	10 a.m.	0.00	0	7 a.m.	0.75	0
			6 a.m.	0.00	0	11 a.m.	0.00	0	8 a.m.	0.62	0
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	0.50	0
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	0.37	0
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	0.25	0
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	0.12	0
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	0.00	0
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	0.00	0
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	0.00	0
			2 a.m.	0.00	0	7 a.m.	0.00	0	4 a.m.	0.00	0
			3 a.m.	0.00	0	8 a.m.	0.00	0	5 a.m.	0.00	0
			4 a.m.	0.00	0	9 a.m.	0.00	0	6 a.m.	0.00	0
			5 a.m.	0.00	0	10 a.m.	0.00	0	7 a.m.	0.00	0
			6 a.m.	0.00	0	11 a.m.	0.00	0	8 a.m.	0.00	0
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	0.00	0
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	0.00	0
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	0.00	0
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	0.00	0
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	0.00	0
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	0.00	0
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	0.00	0
			2 a.m.	0.00	0	7 a.m.	0.00	0	4 a.m.	0.00	0
			3 a.m.	0.00	0	8 a.m.	0.00	0	5 a.m.	0.00	0
			4 a.m.	0.00	0	9 a.m.	0.00	0	6 a.m.	0.00	0
			5 a.m.	0.00	0	10 a.m.	0.00	0	7 a.m.	0.00	0
			6 a.m.	0.00	0	11 a.m.	0.00	0	8 a.m.	0.00	0
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	0.00	0
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	0.00	0
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	0.00	0
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	0.00	0
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	0.00	0
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	0.00	0
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	0.00	0
			2 a.m.	0.00	0	7 a.m.	0.00	0	4 a.m.	0.00	0
			3 a.m.	0.00	0	8 a.m.	0.00	0	5 a.m.	0.00	0
			4 a.m.	0.00	0	9 a.m.	0.00	0	6 a.m.	0.00	0
			5 a.m.	0.00	0	10 a.m.	0.00	0	7 a.m.	0.00	0
			6 a.m.	0.00	0	11 a.m.	0.00	0	8 a.m.	0.00	0
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	0.00	0
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	0.00	0
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	0.00	0
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	0.00	0
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	0.00	0
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	0.00	0
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	0.00	0
			2 a.m.	0.00	0	7 a.m.	0.00	0	4 a.m.	0.00	0
			3 a.m.	0.00	0	8 a.m.	0.00	0	5 a.m.	0.00	0
			4 a.m.	0.00	0	9 a.m.	0.00	0	6 a.m.	0.00	0
			5 a.m.	0.00	0	10 a.m.	0.00	0	7 a.m.	0.00	0
			6 a.m.	0.00	0	11 a.m.	0.00	0	8 a.m.	0.00	0
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	0.00	0
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	0.00	0
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	0.00	0
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	0.00	0
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	0.00	0
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	0.00	0
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	0.00	0
			2 a.m.	0.00	0	7 a.m.	0.00	0	4 a.m.	0.00	0
			3 a.m.	0.00	0	8 a.m.	0.00	0	5 a.m.	0.00	0
			4 a.m.	0.00	0	9 a.m.	0.00	0	6 a.m.	0.00	0
			5 a.m.	0.00	0	10 a.m.	0.00	0	7 a.m.	0.00	0
			6 a.m.	0.00	0	11 a.m.	0.00	0	8 a.m.	0.00	0
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	0.00	0
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	0.00	0
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	0.00	0
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	0.00	0
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	0.00	0
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	0.00	0
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	0.00	0
			2 a.m.	0.00	0	7 a.m.	0.00	0	4 a.m.	0.00	0
			3 a.m.	0.00	0	8 a.m.	0.00	0	5 a.m.	0.00	0
			4 a.m.	0.00	0	9 a.m.	0.00	0	6 a.m.	0.00	0
			5 a.m.	0.00	0	10 a.m.	0.00	0	7 a.m.	0.00	0
			6 a.m.	0.00	0	11 a.m.	0.00	0	8 a.m.	0.00	0
			7 a.m.	0.00	0	12 m.	0.00	0	9 a.m.	0.00	0
			8 a.m.	0.00	0	1 a.m.	0.00	0	10 a.m.	0.00	0
			9 a.m.	0.00	0	2 a.m.	0.00	0	11 a.m.	0.00	0
			10 a.m.	0.00	0	3 a.m.	0.00	0	12 m.	0.00	0
			11 a.m.	0.00	0	4 a.m.	0.00	0	1 a.m.	0.00	0
			12 m.	0.00	0	5 a.m.	0.00	0	2 a.m.	0.00	0
			1 a.m.	0.00	0	6 a.m.	0.00	0	3 a.m.	0.00	0
			2 a.m.	0.00</							

NORTHEASTERN FLOODS OF AUGUST 1955

(291) Neshaminy Creek near Langhorne, Pa.

Location.--Lat 40°10'25", long 74°57'30", on left bank at bridge on State Highway 213, 0.3 mile downstream from Mill Creek and 1.7 miles west of Langhorne, Bucks County. Datum of gage is 40.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Drainage area.--210 sq mi.

Gage-height record.--Water-stage recorder graph except for period Aug. 19-22 which was reconstructed on basis of records for nearby stations and floodmark of peak.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,700 cfs and extended above on basis of contracted-opening determination at 15.94 ft and slope-area determination at 22.84 ft.

Maxima.--August 1955: Discharge, 49,300 cfs about 9 a.m. Aug. 19 (gage height, 22.84 ft, from floodmark).

1934 to July 1955: Discharge, 24,800 cfs July 25, 1938 (gage height, 15.94 ft) by contracted-opening method. Flood of Aug. 23, 1933 reached a stage of 17.5 ft (discharge, 30,000 cfs, from rating curve extended as explained above).

Remarks.--Occasional regulation by Springfield Lake (capacity, 650 million gallons); no significant regulation during flood period.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	13	7	17	12	550	17	213	22	1,910	27	253
2	11	8	73	13	12,300	19	1,290	23	620	28	233
3	13	9	123	14	1,770	19	27,300	24	415	29	205
4	18	10	40	15	479	20	3,230	25	341	30	198
5	18	11	40	16	276	21	554	26	290	31	198
6	18										

Runoff, in inches..... 9.39

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 11			Aug. 13--Con.			Aug. 17--Con.			Aug. 19--Con.		
12 p.m.--	0.93	43	6-----	13.55	17,300	10-----	1.40	194	6-----	12.60	15,000
			10-----	12.42	14,600	12-----	1.51	213	9-----	10.40	10,200
			12-----	10.40	10,200				12-----	8.80	7,330
Aug. 12			Aug. 14			Aug. 18			Aug. 20		
4 a.m.--	.8	36	1 a.m.--	8.45	6,780	2 a.m.--	1.66	274	6 a.m.--	6.60	4,310
7-----	.92	34	2-----	6.37	4,060	9-----	1.93	388	12 m.--	5.06	2,720
8-----	1.12	93	3-----	5.35	3,000	12 m.--	2.15	489	6 p.m.--	3.93	1,720
10-----	1.07	71	4-----	4.63	2,340	6 p.m.--	2.08	456	12-----	3.00	990
12 m.--	1.04	65	5-----	3.47	1,360	7-----	2.55	579			
1 p.m.--	2.57	712	6-----	2.80	855	8-----	3.11	1,070	Aug. 21		
2-----	2.78	842	7-----	2.99	983	9-----	4.68	2,380	6 a.m.--	2.25	538
4-----	2.59	724	8-----	2.42	626	10-----	7.85	5,630	12 m.--	1.80	332
6-----	2.83	874	12-----			11-----	9.52	8,550	6 p.m.--	1.90	375
8-----	3.13	1,090	Aug. 15			12-----	10.77	11,000	12-----	2.95	955
9-----	3.13	1,090	12 m.--	2.12	475						
10-----	3.96	1,750	12 p.m.--	1.82	341	Aug. 19			Aug. 22		
12-----	4.85	2,540				1 a.m.--	12.00	13,600	2 a.m.--	3.70	1,540
Aug. 13			Aug. 16			2-----	14.20	16,900	6-----	4.35	2,620
3 a.m.--	5.95	3,600	12 m.--	1.65	270	4-----	19.32	31,500	8-----	5.20	2,850
4-----	7.90	5,990	12 p.m.--	1.54	225	6-----	21.50	43,800	2 p.m.--	4.60	2,310
5-----	9.54	8,580	Aug. 17			9-----	22.84	49,300	4-----	4.08	1,840
6-----	10.48	10,400	12 m.--	1.52	217	12 m.--	21.30	45,000	6-----	3.53	1,400
8-----	11.82	13,200				2 p.m.--	17.75	29,800	10-----	3.00	990
11-----	12.75	15,400				4-----	14.80	20,500	12-----	2.85	888
2 p.m.--	12.61	15,000									

(294) Little Schuylkill River at Tamaqua, Pa.

Location.--Lat 41°48'00", long 75°58'00", on left bank at pumping plant of Panther Valley Water Co., 0.6 mile upstream from Tamaqua, Schuylkill County, and 0.8 mile upstream from Panther Creek. Datum of gage is 817.48 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Drainage area.--42.9 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,200 cfs and extended above on basis of contracted-opening determination at peak stage.

Maxima.--August 1955: Discharge, 7,790 cfs 5:50 p.m. Aug. 18 (gage height, 11.10 ft).

1916 to July 1955: Discharge, 4,510 cfs May 22, 1942 (gage height, 7.95 ft)

Remarks.--Figures of daily discharge and monthly mean do not include water diverted from Still Creek Reservoir (capacity, 133,900,000 cu ft).

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	10.5	7	12	13	187	19	3,080	25	354	29	167
2	10	8	11.5	14	91	20	1,200	26	300	30	135
3	9.5	9	9.8	15	59	21	577	27	172	31	99
4	10	10	9.8	16	43		344	28	157		166
5	11	11	23								
6	10.5										

Runoff, in inches..... 5.98

(294) Little Schuylkill River at Tamaqua, Pa.--Continued

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 16			Aug. 18--Con.			Aug. 21		
12 p.m.---	2.00	28	12 p.m.---	2.19	43	5:30-----	11.10	7,790	12 m.-----	3.48	340
			12 p.m.---	2.14	37	6-----	10.16	6,660	6 p.m.-----	3.34	292
Aug. 13						7-----	9.20	5,510	7-----	3.40	312
2 a.m.---	2.12	35	Aug. 17			8-----	8.44	4,600	11-----	3.34	292
4-----	2.40	75	4 p.m.---	2.12	35	9-----	7.89	3,960	12-----	3.44	326
6-----	2.60	116	5-----	2.18	42	12-----	6.95	2,920			
7-----	2.83	177	6-----	2.12	35						
9-----	2.92	206	9-----	2.20	44						
12 m.---	2.93	209	12-----	2.20	44	Aug. 19			Aug. 22		
6 p.m.---	3.19	300				5 a.m.---	6.42	2,590	2 a.m.---	3.52	354
12-----	2.84	180	Aug. 18			6-----	6.01	1,990	5-----	3.39	309
Aug. 14			1 a.m.---	2.39	57	8-----	5.60	1,620	10-----	3.28	273
4 a.m.---	2.62	121	2-----	2.35	66	10-----	5.25	1,320	12 m.---	3.14	229
10-----	2.45	84	3-----	2.46	90	2 p.m.---	4.94	1,100	3 p.m.---	3.08	202
1 p.m.---	2.33	63	4-----	2.64	126	6-----	4.55		7-----	3.14	229
5 p.m.---	2.33	63	5-----	2.84	180				8-----	3.39	309
9-----	2.40	75	6-----	3.00	232	Aug. 20			9-----	4.26	680
12-----	2.35	66	7-----	3.15	206	5 a.m.---	4.40	756	10-----	4.33	718
			9-----	3.20	304	9-----	4.16	629	12-----	4.01	557
			12 m.---	3.17	293	2 p.m.---	3.95	530			
Aug. 15			1 p.m.---	3.29	339	3-----	3.80	464	Aug. 23		
6 a.m.---	2.35	66	2-----	4.94	1,370	6-----	3.65	404	2 a.m.---	3.75	444
12 p.m.---	2.22	47	3-----	6.96	3,160	8-----	3.75	444	6-----	3.51	351
			4-----	9.45	5,820	12-----	3.68	415	9-----	3.45	330
									12 p.m.---	3.15	232

(312) Lackawanna River at Old Forge, Pa.

Location.--Lat 41°21'30", long 75°44'40", on right bank 150 ft upstream from Delaware, Lackawanna and Western Railroad bridge in Old Forge, Lackawanna County, and 0.5 mile upstream from St. Johns Creek. Datum of gage is 595.26 ft above mean sea level, datum of 1929, supplementary adjustment of 1945.

Drainage area.--332 sq mi.

Gage-height record.--Water-stage recorder graph except for period 10 p.m. Aug. 18 to 2:20 p.m. Aug. 22. Graph for period Aug. 19-22 drawn on basis of observer's reading, floodmark of peak and comparison with record for gaging station at Archbald.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,000 cfs and extended to peak stage on basis of slope-area determinations at gage heights 15.30 and 20.05 ft. Doubtful gage-height record Aug. 1-11, 23-31.

Maxima.--August 1955: 31,000 cfs about 2 a.m. Aug. 19 (gage height, 20.05 ft, from floodmark).

1938 to July 1955: Discharge, 20,900 cfs May 23, 1942 (gage height, 15.30 ft), from slope-area determination of peak flow.

Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	102	7	153	12	198	17	613	22	2,420	27	815
2	117	8	122	13	1,060	18	4,820	23	2,090	28	695
3	117	9	110	14	2,630	19	14,000	24	1,540	29	580
4	122	10	110	15	1,870	20	3,680	25	1,170	30	534
5	125	11	190	16	922	21	2,340	26	916	31	644
6	125										

Runoff, in inches..... 5.03

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 15--Con.			Aug. 18--Con.			Aug. 21		
12 p.m.---	2.30	221	12 p.m.---	3.57	1,200	7-----	7.85	7,800	8 a.m.---	4.17	1,070
Aug. 13						8-----	11.70	14,000	12 m.---	3.97	1,700
6 a.m.---	2.60	359	Aug. 16			10-----	11.50	13,000	4 p.m.---	3.89	1,600
7-----	2.97	604	12 m.---	3.27	470	12-----	17.60	25,000	6-----	4.05	2,000
8-----	3.56	1,190	12-----	3.13	740				8-----	4.02	1,900
12 m.---	3.92	1,640	Aug. 17			Aug. 19			10-----	3.84	1,000
12-----	3.52	1,140	12 m.---	2.40	500	1 a.m.---	13.40	19,000	12-----	3.50	2,240
Aug. 14			12-----	2.60	540	2-----	20.00	41,000			
2 a.m.---	3.57	1,200				3-----	17.80	27,000	Aug. 22		
5-----	4.24	2,070	Aug. 18			6-----	12.00	17,000	2 a.m.---	3.50	2,510
12 m.---	4.30	2,280	4 a.m.---	3.77	482	12 m.---	5.40	12,000	12 m.---	4.22	2,000
2 p.m.---	5.22	3,500	5-----	3.27	670	1 p.m.---	7.42	7,800	4 p.m.---	4.14	1,900
5-----	5.50	3,950	6-----	4.01	1,000	2-----	8.00	1,770	6-----	4.03	2,000
12-----	4.76	2,810	10-----	4.02	1,200	Aug. 20			8-----	4.05	2,000
Aug. 15			2 p.m.---	4.10	1,270	5 a.m.---	5.70	4,400	10-----	4.70	3,600
12 m.---	4.00	1,740	4-----	3.70	2,720	12 m.---	5.10	3,400	12-----	4.58	2,540
			5-----	3.20	1,470	2 p.m.---	4.70	2,810			
			6-----	6.00	4,750	12-----	4.40	2,300			

NORTHEASTERN FLOODS OF AUGUST 1955

(316) Wapwallopen Creek near Wapwallopen, Pa.

Location.--Lat 41°04'35", long 76°05'40", on left bank 100 ft upstream from Harts Bridge, 2 1/2 miles southeast of Wapwallopen, Luzerne County, and 3.7 miles upstream from mouth. Datum of gage is 82.41 ft above mean sea level (Pennsylvania Railroad benchmark).

Drainage area.--45.8 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,300 cfs and extended to peak stage by logarithmic plotting. Shifting-control method used at times.

Maxima.--August 1955: Discharge, 3,140 cfs 11 p.m. August 15 (gage height, 9.23 ft).

1919 to July 1955: Discharge, 2,990 cfs July 25, 1955 (gage height, 8.90 ft), as explained above.

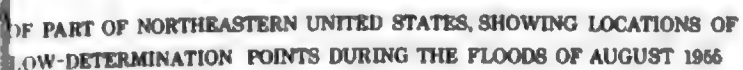
Mean discharge, in cubic feet per second, August 1955

Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs	Day	Cfs
1	2.2	7	2.5	12	9.5	17	11	22	257	27	54
2	1.7	8	4.5	13	74	18	910	23	486	28	40
3	1.7	9	5.1	14	55	19	1,170	24	116	29	40
4	1.5	10	3.4	15	50	20	510	25	84	30	40
5	1.4	11	3.9	16	14	21	100	26	60	31	30
6	1.7										

Runoff, in inches..... 3.09

Gage height, in feet, and discharge, in cubic feet per second, at indicated time

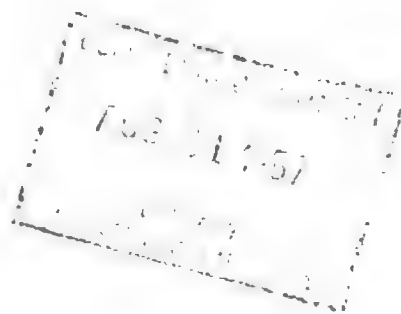
Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge	Time	Gage height	Dis-charge
Aug. 12			Aug. 15			Aug. 18--Con.			Aug. 20		
12 p.m.--	0.80	12	12 m.-----	0.97	21	3-----	1.95	130	12 m.-----	2.89	303
			12-----	.90	17	4-----	3.65	487	12-----	2.50	221
Aug. 13						5-----	6.62	1,550			
4 a.m.---	.85	14	Aug. 16			6-----	7.08	1,780	Aug. 21		
6-----	1.08	28	12 m.-----	.85	14	7-----	7.96	2,300	12 m.-----	2.33	187
8-----	1.29	44	12-----	.81	12	8-----	8.36	2,540	9 p.m.-----	2.16	154
10-----	1.46	60				9-----	9.23	3,140	10-----	2.42	205
12 m.---	1.61	77	Aug. 17			11-----	9.05	3,020	11-----	3.32	401
2 p.m.---	1.78	102	12 m.-----	.78	11	12-----			12-----	4.25	636
4-----	1.97	133	12-----	.76	11	Aug. 19			Aug. 22		
8-----	1.87	116				2 a.m.---	8.31	2,510	1 a.m.---	4.62	745
12-----	1.81	107	Aug. 18			4-----	7.80	2,200	3-----	4.08	591
Aug. 14			4 a.m.---	.87	15	6-----	7.00	1,740	5-----	3.57	450
6 a.m.---	1.53	68	6-----	1.00	23	8-----	6.03	1,270	7-----	3.26	385
12 m.---	1.30	44	7-----	1.15	33	10-----	5.40	1,010	12 m.---	2.85	295
6 p.m.---	1.13	31	8-----	1.45	59	12 m.---	4.98	831	6 p.m.---	2.55	233
12-----	1.10	30	9-----	1.67	86	2 p.m.---	4.44	689	12-----	2.52	225
			10-----	1.76	99	4-----	4.09	593			
			2 p.m.---	1.69	89	8-----	3.62	470			
						12-----	3.37	412			



U.S. GEOLOGICAL SURVEY, CIRCULAR 378



WATER RESOURCES OF THE SAN FRANCISCO BAY AREA, CALIFORNIA





UNITED STATES DEPARTMENT OF THE INTERIOR

Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 378

WATER RESOURCES OF THE SAN FRANCISCO BAY AREA, CALIFORNIA

By H. F. Matthai, William Back, R. P. Orth, and Robert Brennan

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PREFACE

This report is one of a series concerning the water resources of selected industrial areas of national importance, and has been prepared at the request of and in consultation with the Water and Sewerage Industry and Utilities Division of the Business and Defense Services Administration of the Department of Commerce. This series is designed to provide information for national defense planning and at the same time to render valuable service to business and industry in their development of water resources for present and future use. These reports are prepared under the direction of J. B. Graham and K. A. MacKichan. The present report was prepared by H. F. Matthai, hydraulic engineer, under the supervision of H. M. Stafford, engineer-in-charge, Sacramento, Calif., and R. C. Briggs, district engineer (Surface Water Branch); by William Back, geologist, under the supervision of F. H. Olmsted and J. F. Poland, district geologists (Ground Water Branch); and by R. P. Orth and Robert Brennan, chemists, under the supervision of L. W. Walling, district chemist of the Quality of Water Branch. Much of the data summarized here has been collected during many years by the U. S. Geological Survey, in cooperation with Federal, State, and local agencies, or has been furnished by the California Division of Water Resources. The reports by Cardwell (1955), Kunkel and

Upson (in preparation), and Thomasson, Olmsted, and Leroux (in preparation) were used extensively in writing the sections on ground water and geology for the areas north of the bays.

Many persons and organizations contributed information used in this report. Special acknowledgment is due the State Division of Water Resources of the Department of Public Works and the State Water Resources Board. The sections on ground water and geology of the Alameda plain and Livermore Valley were written with information furnished by A. J. Dolcini and R. T. Bean, of California Division of Water Resources. The report on geology and water resources of Santa Clara Valley, in preparation, under the direction of J. M. Haley and T. P. Wootton, was used for the Santa Clara Valley section of this report. The authors also wish to acknowledge the courtesy and cooperation of the following agencies: San Francisco Water Department, San Francisco Public Utilities Commission, East Bay Municipal Utility District, Santa Clara Valley Water Conservation District, California Water Service Company, City of Vallejo, Marin Municipal Water District, counties of Santa Clara, Alameda, Contra Costa, Napa, and Sonoma, the U. S. Weather Bureau, and the U. S. Bureau of Reclamation.

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WATER RESOURCES OF THE SAN FRANCISCO BAY AREA, CALIFORNIA

By H. F. Matthai, William Back, R. P. Orth, and Robert Brennan

ABSTRACT

The sources of water in the San Francisco Bay Area are the streams and ground-water basins within the area and importations from streams of the Sacramento and San Joaquin River basins. Since 1895, annual natural runoff in the area has averaged about 1,250,000 acre-feet and ranged from 90,000 to 3,100,000 acre-feet. In general, the chemical quality of the water in the streams is suitable for most domestic, industrial, and irrigation uses. The water is mainly a calcium bicarbonate type with low to moderate concentrations of dissolved solids. In places it is high in calcium and magnesium hardness.

There are eight major ground-water basins in the area. Although local overdraft exists in the four basins north of the bays, this is not a serious problem at present. In the basins south of the bays, varying conditions of overdraft and resulting encroachment of saline water from the Bay have occurred in Santa Clara Valley, the Alameda alluvial plain, and the Pittsburg plain. Currently an overdraft exists in Livermore Valley. Although in some places ground water is of poor quality (saline-encroachment and high concentrations of boron), they are mostly of the calcium bicarbonate type and are generally suitable for domestic, industrial, and irrigation use.

As the San Francisco Bay Area itself is an area of deficient water supply, water is imported from the Tuolumne River basin (Hetch Hetchy system) for the San Francisco Metropolitan area, from the Mokelumne River basin for the East Bay Municipal Utility District, from the Sacramento-San Joaquin Delta via Contra Costa Canal for the Contra Costa County area, and from Cache Slough, tributary to the Delta, for the city of Vallejo. The annual total of these importations (232,000 acre-feet in the 1953 water year) is currently about 48 percent of the average annual yield of developed local surface- and ground-water supplies. The import from the Tuolumne and Mokelumne River basins is typical mountain water that is soft, low in dissolved solids, and is of the calcium and magnesium bicarbonate type. Water from the Sacramento-San Joaquin Delta is a mixture of Sacramento River water of good quality and San Joaquin River water of poorer quality.

The area of urban and agricultural use of water totals about 439,000 acres or 17 percent of the land in the San Francisco Bay Area. An additional area of 272,000 acres is devoted to agriculture but is not irrigated.

On the basis of studies made by the California Division of Water Resources in 1949, the annual gross

demand for water in the San Francisco Bay Area is about 710,000 acre-feet, or 630 mgd. About 42 percent, or 300,000 acre-feet is used to meet agricultural requirements; about 53 percent or 380,000 acre-feet is used for urban requirements, and 5 percent is needed for other requirements. This total demand is met from developments of both local and imported waters which at present (1954) are capable of supplying a little more than 1,000,000 acre-feet annually. Present local installations, developing surface- and ground-water supplies, have a yield of about 480,000 acre-feet.

Of the 380,000 acre-feet required for urban use, 50 percent is for domestic use, 37 percent is for industrial use, 8 percent is for commercial use, and 5 percent is for other uses (parks, institutions, etc.). In terms of gallons per capita per day, domestic use is about 66, industrial use 49, commercial use 10, and other uses 7. Data for the city of San Francisco show that 47 percent of the water is for domestic uses and 53 percent is for industrial and commercial uses. For the East Bay Municipal Utility District the data show that domestic use accounts for 68 percent, and industrial and commercial uses account for 32 percent of the total.

Of the 300,000 acre-feet used to meet the requirements on about 163,000 acres of irrigated lands, nearly all is supplied by ground water. The remaining minor part is supplied by the direct diversion of surface-water sources. About 70,000 acre-feet of the water applied in irrigation is returned to ground-water storage.

Surface-water sources in the San Francisco Bay Area have been largely developed, and only a few small additional local supplies are economically feasible. The ground-water basins cannot support large additional withdrawals. Increased future requirements of the area must, therefore, be met by importations. For the immediate future, the increased demands of the principal public water systems can be satisfied to the extent that the present capability or safe yield of the systems exceeds the current demand. The aggregate safe yield of the six largest systems exceeded the 1953 demand by about 392,000 acre-feet. Compared to the present water requirements in the area of 710,000 acre-feet, the California Division of Water Resources has estimated that the total use under ultimate development with 85 percent urbanization will be between 3,000,000 and 3,400,000 acre-feet annually, depending on whether or not the tidelands are reclaimed.

Many plans or proposals for the importation of additional water have been made. Plans of the city of San Francisco call for an expanded Hetch Hetchy system

plus present local sources to give a combined yield of about 500,000 acre-feet annually, or more than three times the 1950 demand. Planned development of the Mokelumne River system by East Bay Municipal Utility District would yield a total of 364,000 acre-feet annually, or more than three times the 1950 demand. In the delivery of 33,000 acre-feet in 1953, only 17 percent of the ultimate planned capacity of the Contra Costa Canal was used. As one feature of the proposed Feather River Project of the California Water Plan, water would be diverted from the Sacramento-San Joaquin Delta to Livermore Valley, southern Alameda County, and Santa Clara Valley; present plans contemplate an annual delivery of 127,000 acre-feet to the Alameda-Santa Clara area. Other proposals under study include diversions from coastal streams into the northern part of the San Francisco Bay Area, and construction of salt-water barriers across the bays.

INTRODUCTION

The purpose of this report is to summarize the available data on surface and underground waters for the San Francisco Bay Area and to present the information in a form suitable for use in the preliminary planning for location and expansion of industrial facilities. No attempt has been made to present a complete record of the hydrology of the area.

Location and Extent

The San Francisco Bay Area discussed in this report comprises all basins draining into San Francisco, San Pablo, and Suisun Bays westward from the confluence of Sacramento and San Joaquin Rivers; and all basins draining into the Pacific Ocean south of Tomales Point and north of Pescadero Point. (See pl. 1.) The Area extends about 120 miles along the coast and averages nearly 45 miles in width. It occupies an area of about 4,400 square miles, and includes either all or a major part of the following nine counties: Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco.

Topography

The San Francisco Bay Area lies completely within the Coast Ranges geomorphic province of California. The Coast Ranges form a nearly continuous barrier between the Pacific Ocean and the Great Central Valley from Santa Barbara County on the south to Humboldt County on the north, almost two-thirds of the length of California. The only break in this barrier is in the Bay Area where a broad irregular gap in the mountains, now flooded by the waters of the three bays, affords an outlet for the drainage from the Sacramento and San Joaquin Valleys.

Importance of Area

Population

The population of the San Francisco Bay Area was 2,560,000 in 1950, an increase of 55 percent since 1940. The present (1954) population is estimated at 3,000,000. Only about 10 percent of the population is in the north

bay part of the area, although it had the greatest percentage increase in the last 10 years.

Industry

The key to the Bay Area's industrial development has been the geographic setting coupled with excellent transportation facilities. A transportation network, including transcontinental rail and highway facilities, air transport services, and steamship lines, converge in San Francisco.

The manufacturing groups in order of importance are food and related products, chemicals, transportation equipment, printing and publishing, fabricated metal products, machinery, primary metal industries, petroleum products, textile mills and apparel, stone, clay and glass products, and paper and related products. Along the south shore of Suisun and San Pablo Bays the most important industries are the oil, chemical, and paper industries. Along the southern shore of San Francisco Bay the important industry is salt production by solar evaporation. In the north bay area, the major employers are the military installations at Hamilton Air Force Base, Mare Island Naval Shipyard, Benicia Arsenal, and Travis Air Force Base. Parks Air Force Base and an Atomic Energy Commission plant are in Livermore Valley.

The agriculture enterprises of the area fall into two general groups, one supplying fresh fruit, vegetables, flowers, poultry and dairy products to the metropolitan area, and the other producing fruit, grain, wine, and cattle for use throughout the State and Nation.

Mineral Resources

Although mining is of little importance, several minerals of commercial value are found in the area. Mercury ore is mined in four of the counties, and small quantities of silver and gold are obtained within the area. Stone, rock, sand, gravel, and materials for brick and tile are plentiful and widely distributed. Lime and materials for cement are quarried in the area. Table salt, magnesium salt, and bromine are produced in large quantities.

Climate

The climate of the San Francisco Bay Area is marked by wide contrasts within short distances. The Pacific Ocean and the topography are the two major features influencing the climate; the effects being most noticeable in a general west-east direction. The isohyetal map (the lines connect points of equal precipitation) of the area (fig. 1) clearly shows the effect of the mountains upon precipitation and the wide range in the average annual precipitation in various sections of the area. Distinct wet and dry seasons are typical of the region along the west coast of the United States. (See figure 2.) Precipitation data are reported for the year ending June 30, so that each wet season is then complete within the year under consideration. According to records collected by the U. S. Weather Bureau, the average (July 1 to June 30) precipitation at San Francisco for the period 1849 to 1953 is 21.99 inches. The annual precipitation and cumulative departure from average

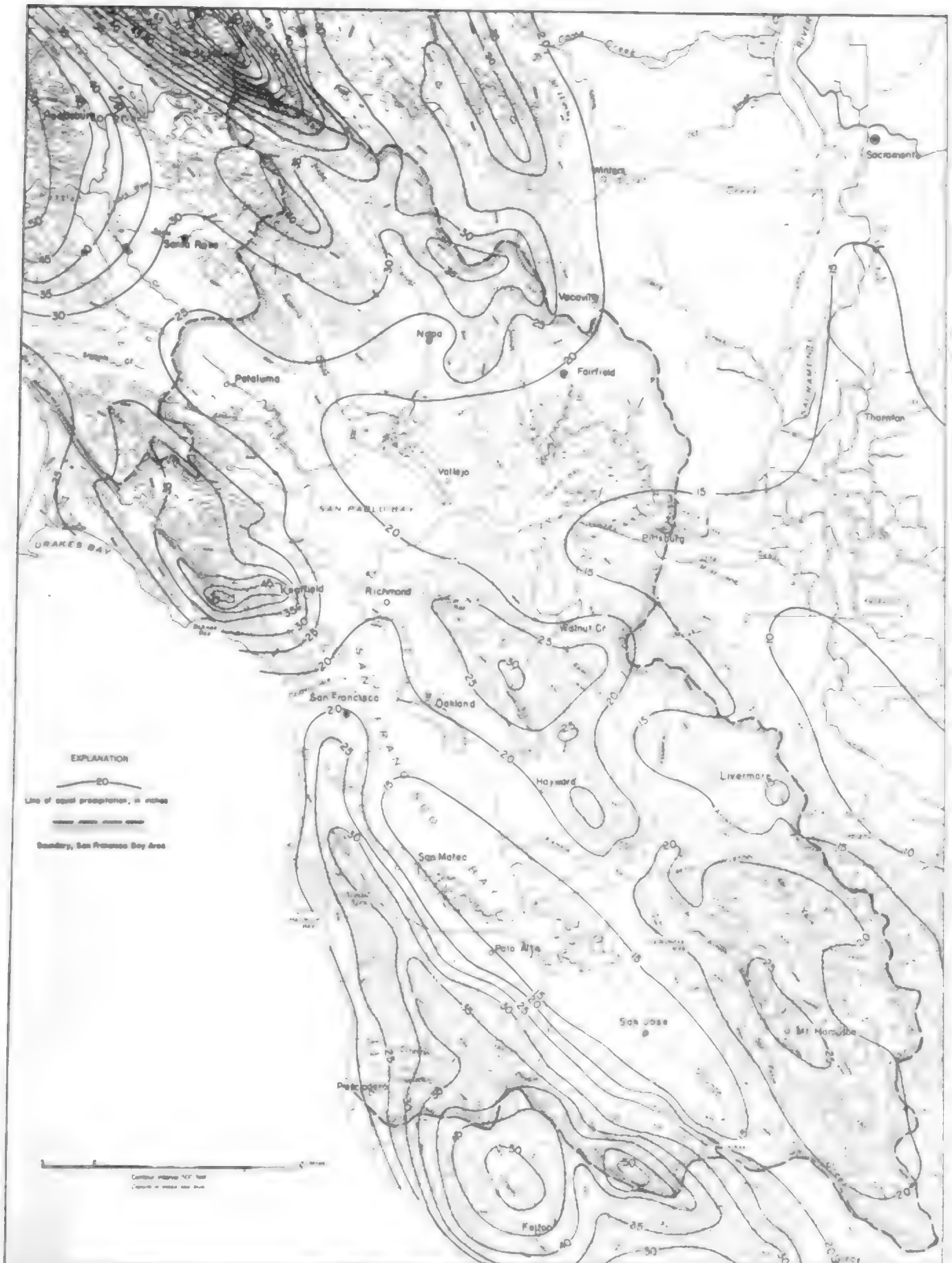


Figure 1.—Geographical distribution of precipitation.

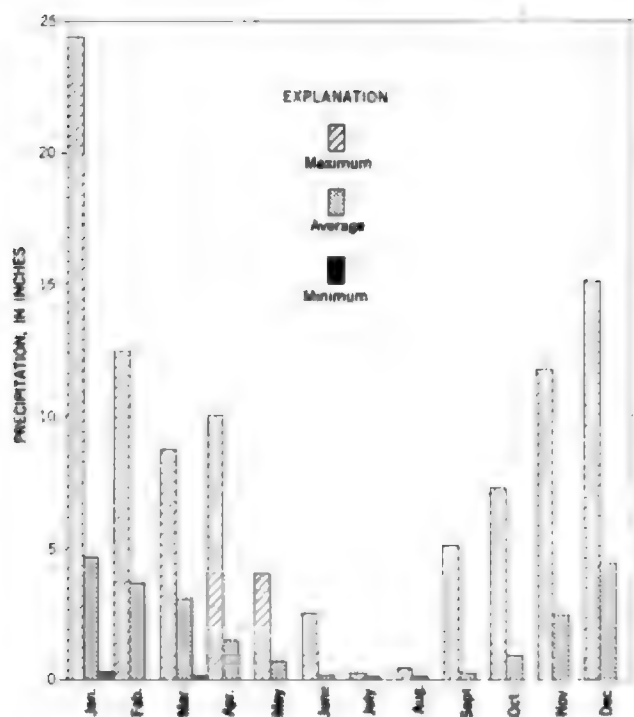


Figure 2. —Precipitation in the San Francisco area, 1849-1953.

precipitation for the period 1849-1953 for San Francisco are shown in figure 3; and in general, the patterns are typical of the area. A wet year or period is indicated where the graph of cumulative departure from the average slopes upward and a dry year or period is indicated where the graph slopes downward.

A maximum annual precipitation of 88.25 inches was recorded at Kentfield at an altitude of 65 feet in Marin County during the precipitation year 1889-90. A minimum of 3.40 inches was recorded at Orinda Park at an altitude of 410 feet in Contra Costa County during the year 1919-20. Average annual precipitation at Kentfield for the periods 1888-1949, and 1950-53, is 46.92 inches and at Orinda Park it is 26.89 inches for the period 1908-38.

The progressive 10-year mean annual precipitation at four selected stations is plotted in figure 3. The precipitation is expressed in percentage of the average annual precipitation for the period of record. The resulting graph shows a cyclic tendency in the distribution of precipitation; however, relatively dry periods have one or more years with precipitation well above average, and conversely, wet periods have one or more years with precipitation well below average.

The higher mountains have snow occasionally for short periods; and snow falls in the valleys on rare occasions. Heavy fog may be expected on 15 to 20 days each year.

The average annual temperature at San Francisco is about 56°F and at Livermore is about 59°F. The maximum, minimum, and average temperature by months for both San Francisco and Livermore are shown in figure 4. The extremes of temperature at San Francisco

are moderated by the Pacific Ocean. During June, July, and August west winds cool the coastal region while the inland valleys are very warm. The diurnal land-and-sea breeze characteristic of many coastal regions is extremely rare here; however, there is usually a distinct diurnal variation in the intensity of the onshore wind.

OCCURRENCE OF WATER

Precipitation in its various forms is the source of the fresh water both on the earth's surface and underground. When rain falls upon the earth's surface, part of it soaks into the ground, part flows into surface streams, and part is returned to the atmosphere by evaporation or by transpiration from vegetation. The largest part of the precipitation soaks into the ground and replenishes the shallow zone of soil water that supports vegetation which returns most of the water to the atmosphere. The water not held in the root zone continues to move by gravity to the ground-water reservoir, the upper surface of which is the water table or a confining layer. Most of it percolates slowly through the rocks in directions determined by the topography and geologic structure. It is discharged eventually through springs or wells, by evaporation and transpiration where the water table lies near the land surface, and through seepage into streams which drain to the sea. The ground-water reservoir is not static as inflow and outflow constantly seek to reach equilibrium. This discharge of ground water may maintain the flow of streams at times when there is no overland flow from precipitation.

The circulation of water from the atmosphere to the earth and back to the atmosphere is called the hydrologic cycle. The significance of the hydrologic cycle is that through it fresh water becomes a renewable resource. Water available today, whether used or not, follows the cycle and will become available again. However, unlike most other natural resources, large quantities of water cannot be held in reserve for future use. The close interrelationship between ground water and surface water is shown by a study of the hydrologic cycle.

Streams and lakes and reservoirs of underground water are the most important sources of water for use by man. Streams in the San Francisco Bay Area are subject to large variations in flow, most of them becoming dry during the summer and flooding during the winter. Surface water is also subject to changes in quality and temperature and may contain sediment or harmful bacteria. Impounding of streamflow, as is done in the Santa Clara Valley, tends to reduce the fluctuations in quantity and quality of the water. In general, ground water is less subject to fluctuations in quantity, quality, and temperature. Ground-water reservoirs often contain a large amount of water in storage, but the reservoirs will become depleted if water is withdrawn faster than it is replaced.

Quantitative evaluation of our water supplies requires a basic understanding of all phases of the hydrologic cycle and continuous records of measurement at various points in the cycle. Plates 1 and 2 show the places where stage and discharge of surface streams are being or have been observed, and the location and extent of the major ground-water basins.

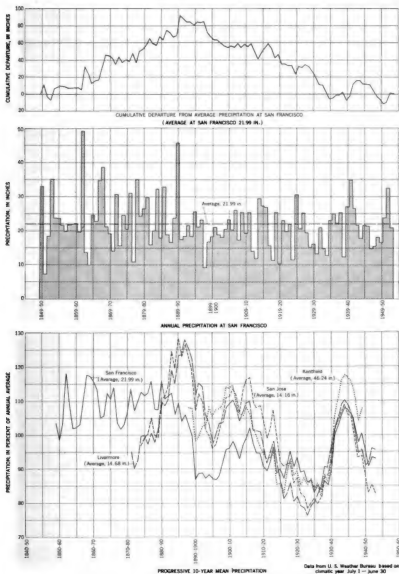


Figure 3.—Average, maximum, and minimum monthly precipitation at San Francisco, 1849—1953.

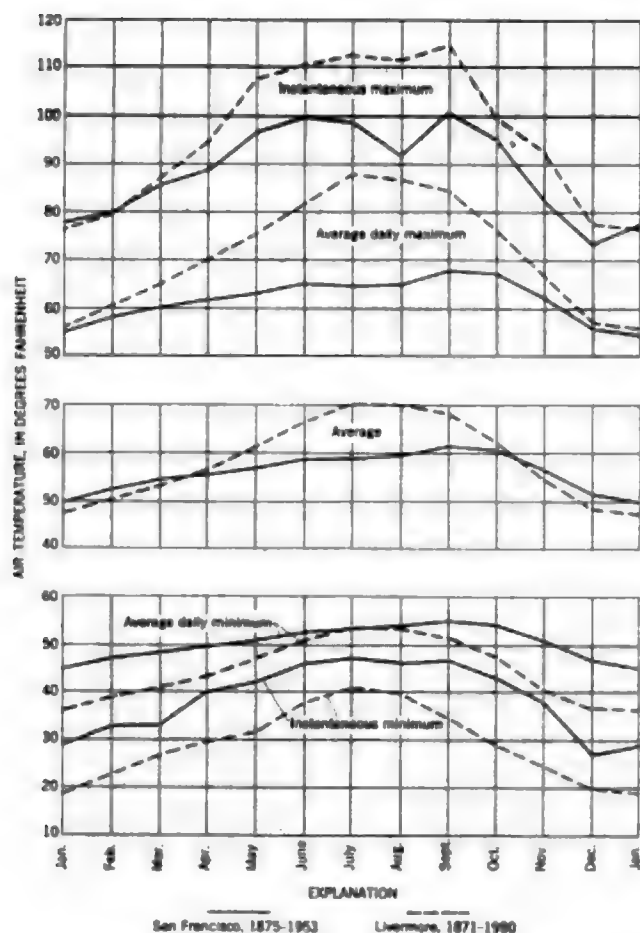


Figure 4.—Average, maximum, and minimum air temperature at San Francisco and Livermore.

Ground Water

Ground water is the water that occurs below land surface in the zone where all open spaces within the rocks are filled with water. The openings range in size from extremely minute spaces between clay particles, to larger openings in sand and gravel, and openings caused by fracturing and solution channels in consolidated rocks. Rocks that have large interconnected openings will transmit more water than rocks with small or poorly connected openings.

Ground water occurs either under confined or unconfined conditions. Under unconfined or "water-table conditions" the top of the zone of saturation is in permeable material. Under confined or "artesian conditions" the upper part of the zone of saturation is composed of a layer of material that is considerably less permeable than the underlying material. In the San Francisco Bay Area every major ground-water basin contains water under both confined and unconfined conditions.

An aquifer is a formation, part of a formation, or a group of formations, in which connected openings are large enough to allow water to be withdrawn by a well. In this report "aquifer" is used in its broadest sense and refers to a group of formations. As such, only two aquifers are discussed, the aquifer of primary

importance or "primary aquifer" and aquifer of secondary importance or "secondary aquifer."

The rocks of the area can be divided into three groups, the primary aquifer, secondary aquifer, and essentially non-water-bearing rocks. (See plate 1.) The geologic formations that are included in these three groups are listed and described briefly in table 1.

Primary Aquifer

The aquifer of primary importance in the San Francisco Bay Area is composed of the alluvial deposits of sand, gravel, and clay. The formations that these sediments comprise are the Recent alluvium, older alluvium of late Pleistocene age, and terrace deposits of Pleistocene age. This Recent and late Pleistocene alluvium underlies the valley floors of the ground-water basins. (See pl. 1.) The lithology and thickness for the alluvium in each ground-water area are given in table 1.

These alluvial sediments attain their greatest thickness in Santa Clara Valley, where the maximum thickness is about 1,000 feet. The yields of wells are also greatest in Santa Clara Valley, ranging up to about 2,000 gallons per minute.

Secondary Aquifer

The formations that compose the aquifer of secondary importance in the Bay Area consist of many rock types (table 1). In general this group consists primarily of Pliocene volcanic rocks and Pliocene or Pleistocene continental sediments of sand, gravel, and clay. Within each ground-water basin these rocks underlie the primary aquifer, and form a discontinuous border around the basin between the valley floor and the foothills (pl. 1).

North of the bays, the rocks that compose the secondary aquifer are the Sonoma volcanics, the Merced, Petaluma, Huichica, Glen Ellen formations, and locally thin veneers of alluvium.

The Sonoma volcanics form a major part of the secondary aquifer north of the bays, and border Sonoma Valley on both the east and the west. A few isolated patches occur west of Petaluma Valley.

Napa Valley is almost entirely enclosed by these volcanic rocks with a narrow band extending nearly the full length of the Valley on the west side and enclosing the north end. On the east an outcrop about 6 miles wide forms the valley boundary and extends eastward to crop out in northwestern Suisun Valley.

The principal water-bearing rocks in the Sonoma volcanics are the unweathered tuffs and pumices. Wells can obtain small to moderate yields everywhere that these rocks are saturated for a reasonable thickness.

The Merced formation crops out in Petaluma Valley on the northwest edge and along the southeast border. Wells that penetrate only the Merced formation in the rolling upland area, where the formation is thin, produce low yields. However, wells in Petaluma Valley that penetrate the Merced formation where it is thickest

Table 1.—Stratigraphic units within ground-water basins and their water-bearing characteristics
Vertical position of formation same indicates age relationship to other formations

Age	Santa Clara Valley	Alameda plain	Livermore-Amador-Sunol area	Ygnacio, Clayton, Concord, San Ramon Valleys and Pittsburg Plain	Suisun-Fairfield area	Napa and Sonoma Valleys	Petaluma Valley
QUATERNARY	Alluvium, (Pleistocene and Recent); 50-1,000 feet thick; gravel, sand, silt and clay.	Alluvium, (Pleistocene and Recent); Clay, silt, sand and gravel.	Alluvium, (Pleistocene and Recent); Livermore Valley; Gravel, sand and clay; average thickness 350 feet, maximum thickness about 700 feet.	Alluvium, (Recent) Sand, gravel and clay.	Younger alluvium, (Recent); 0-100 feet thick. Silt, sand, and gravel, low to moderate permeability; yields some water to wells.	Younger alluvium, (Recent); Unconsolidated clay, silt, sand, and gravel. Saturated with water below shallow depth and yields water freely to wells.	Younger alluvium, (Recent); 0-200 feet thick. Poorly sorted stream-bed deposits of gravel, sand, silt and clay. Unconsolidated except for local surface induration. Terrace deposits generally above perennially saturated zone.
				Pittsburg formation of Tolman, (Pleistocene); Continental deposit of clay with minor gravel and sand layers. Consolidated thickness of Recent alluvium and Pittsburg formation is on order of 700 to 1,000 feet.	Older alluvium, (Pleistocene); 0-200 feet thick. Silt and clay, gravel, fine to coarse sand. Wide range in permeability; probably supplies most of water pumped from wells.	Terrace deposits and older alluvium, (Pleistocene); Unconsolidated clay, silt, sand, and gravel. Terrace deposits generally above saturated zone, and generally not tapped by wells. Older alluvium yields water in moderate quantities. One of the principal sources of water in Napa and Sonoma Valleys.	
TERTIARY AND QUATERNARY	Santa Clara formation, (Pliocene and Pleistocene); 1,000 to 4,000 feet thick. Fresh-water gravel, silt and clay. Silt-cemented conglomerate, fine silt-cemented sandstone, siltstone, clay-stone.		Livermore gravel of Clark (1909); (Pliocene) sand, gravel and clay with some tuff at base. Maximum thickness is 4,000 feet.	Orinda formation, (Pliocene); 0-5,000 feet thick. Consolidated fresh-water deposit of interstratified pebbly conglomerate, sandstone, clay, and limestone with few thin beds of tuff.	(Same age as Sonoma volcanics)	Hualchica formation, (Pleistocene); 0-200 feet thick. Unconsolidated and poorly sorted, generally fine-grained silt and clay with occasional lenses of clay and gravel. Basal 200-300 feet contains some tuff and pumice. Low permeability; generally yields insufficient water for domestic needs.	Merced formation, (Pliocene and Pleistocene); 0-1,500+ feet thick. Medium to fine-grained marine, fossiliferous sand, sandstone, and silt clay with minor interbedded gravel and pebbly beds. Interbedded with Sonoma volcanics; partly tuffaceous. Upper part of formation yields water readily to wells and is tapped by most deep wells on west side of Petaluma Valley. Lower part of formation is more compact but yields adequate domestic supplies.
	Packwood gravels of Tolman, (Pliocene and Pleistocene). Poorly to well-consolidated gravel, pebbly sandstone, silt, and clay.			Sonoma volcanics, (Pliocene); 0-1,000 feet thick. Massive tuff, tuff breccia and flows lying unconformably on older rocks. Tuffs appear porous and sandy in outcrops but when wetted they swell and yield water slowly. Most water is probably transmitted along fault and fractures.	Glen Ellen formation, (Pleistocene); Unconsolidated clay, silt, sand, and gravel; generally fine grained. Basal beds interbedded with uppermost Sonoma volcanics, may be equivalent to Hualchica.	Sonoma volcanics, (Pliocene); 0-1,000 feet thick. Interbedded lava flows, tuff breccia, agglomerate, sand and silt, conglomerate and sandstone. These rocks are not a major source of water. Locally supplies moderate yields to wells south of Petaluma and northeast of town of Petaluma.	Petaluma formation, (Pliocene); 0-4,000 feet thick. Consists of tuffaceous sandstone with some conglomerate and nodular limestone. Yields moderate quantities of water to wells where appreciable thickness of sands are penetrated.
TERTIARY AND OLIGOCENE	Petaluma formation, (Pliocene); Marine conglomerate and sandstone.			Purple tuff, (Pliocene); 0-1,000 feet thick. Aeneolithic white pumaceous tuff; contains fresh-water fossils.			Tolay volcanics of Morse and Bailey (1923). (Pliocene); Not tapped by wells.
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and overlain by alluvium, have yields ranging up to 650 gpm, the highest of any wells in the valley.

The Petaluma formation crops out along the northwest side of upper Petaluma Valley, and wells in this formation yield moderate quantities of water in areas where sand forms the major portion of the section. About 1935 the highest reported yield was 350 gpm. In 1950 most wells that penetrated only the Petaluma formation yielded less than 50 gpm.

The largest outcrop of the Huichica formation in this area is at the south end of the range of hills that separates Sonoma and Napa Valleys. The Huichica also crops out in the low hills east of Napa Valley. Wells drilled into the upper part of the Huichica formation produce very low yields, at some places not enough for domestic needs. Wells drilled into the lower Huichica are slightly more productive but generally yield less than 20 gpm.

Within the Bay Area the Glen Ellen formation crops out only along the west side of Sonoma Valley. The Glen Ellen underlies the alluvium, and is in contact with the Huichica formation beneath the alluvial plain. This formation does not yield water freely to wells, and most wells yield less than 10 gpm.

South of the bays the secondary aquifer consists primarily of the Santa Clara formation and the Livermore gravel of Clark (1930). This aquifer also includes terrace deposits along the south shore of Suisun Bay and on the ocean side of San Francisco Peninsula, Pleistocene deposits in the Oakland area, the Merced formation on San Francisco Peninsula, sand dunes in San Francisco County, and locally thin veneers of alluvium.

The Santa Clara formation crops out in a narrow disconnected band in the hills adjacent to Santa Clara Valley, extends northward along the Alameda plain, and beneath the Recent alluvium of the valley floor. This formation consists of up to 4,000 feet of continental sand, gravel, silt and clay; and it supplies water to deep wells around the outer margins of the valley, and to small wells in the hills bordering the valley.

The Livermore gravel forms a wide outcrop along the southern part of Livermore Valley. This formation is very similar to the Santa Clara formation in lithology and thickness.

Essentially Non-Water-Bearing Rocks

Essentially non-water-bearing rocks, composed mainly of sandstone, shale, metamorphic and igneous rocks, are the oldest in the area and range in age from lower Paleozoic or Precambrian to generally about middle Pliocene. (See table 1.) These consolidated rocks comprise the mountains and hill lands, underlie the aquifers in the valleys and occupy most of the area. (See plate 1.) These rocks contain some water along joints and other fractures and, at a few locations, wells have been developed from the water in these openings.

Fluctuation of Water Levels

In the San Francisco Bay Area, where nearly all precipitation occurs between October and May, the

water levels are highest in the spring and lowest in late summer and autumn. Water-level fluctuations may be considered in their short-term or long-term effects. Short-term fluctuations indicate the change of required pumping lift of ground-water from day to day or season to season. The long-term fluctuations showing the change year after year are most significant in estimating future ground-water development. Plotted on figure 5 are hydrographs of five wells south of the bays. Figure 6 shows the hydrographs for five wells north of the bays.

All the hydrographs for the wells south of the bays have nearly the same long-term fluctuations. The hydrographs have the same general shape as the graph of rainfall at San Francisco plotted as cumulative departure from the average for the period 1849-1953.

Although the rainfall was about normal for the 4 years 1942-46, the water levels of wells in the Santa Clara Valley and the Alameda plain declined during this period due to increased pumpage.

Recharge

Recharge is the addition of water to the ground-water reservoir, and can take place in several natural or artificial ways. Natural recharge is that portion of the replenishment that is not a result of activities of man. Artificial recharge is accomplished in the Bay Area by infiltration of imported surface water and the construction of dams and canals specifically for the purpose of inducing percolation into the ground-water reservoir. Salt-water encroachment is an undesirable type of recharge that may occur in basins adjacent to salt water when ground-water levels are drawn down below sea level as a result of excessive pumping draft.

Natural recharge

Under natural conditions the ground-water bodies in the Bay Area are recharged (1) by direct infiltration of precipitation on the valley floors, (2) by subsurface inflow of water that falls as precipitation in the mountain and hill areas, and (3) by percolation of surface water in the permeable reaches of the streams. All fresh water for natural recharge of ground-water basins of the Bay Area originates as precipitation within the area. The Sacramento and San Joaquin Rivers are the only sources of fresh water that flow into the San Francisco Bay Area. Prior to the importation of water from the Sacramento-San Joaquin Delta, the imported water did not recharge the ground-water basins along the Bay shore.

Artificial recharge

Artificial recharge of fresh water can occur as (1) a result of deliberate efforts to increase the ground-water reserves or (2) an additional, or secondary, benefit from certain water-use practices.

Artificial recharge is common as an additional benefit of certain water-use practices in every ground-water basin within the Bay Area. These practices include excessive application for irrigation of imported water or local surface water, disposal of sewage effluent in leaching fields, and disposal of water used for cooling.

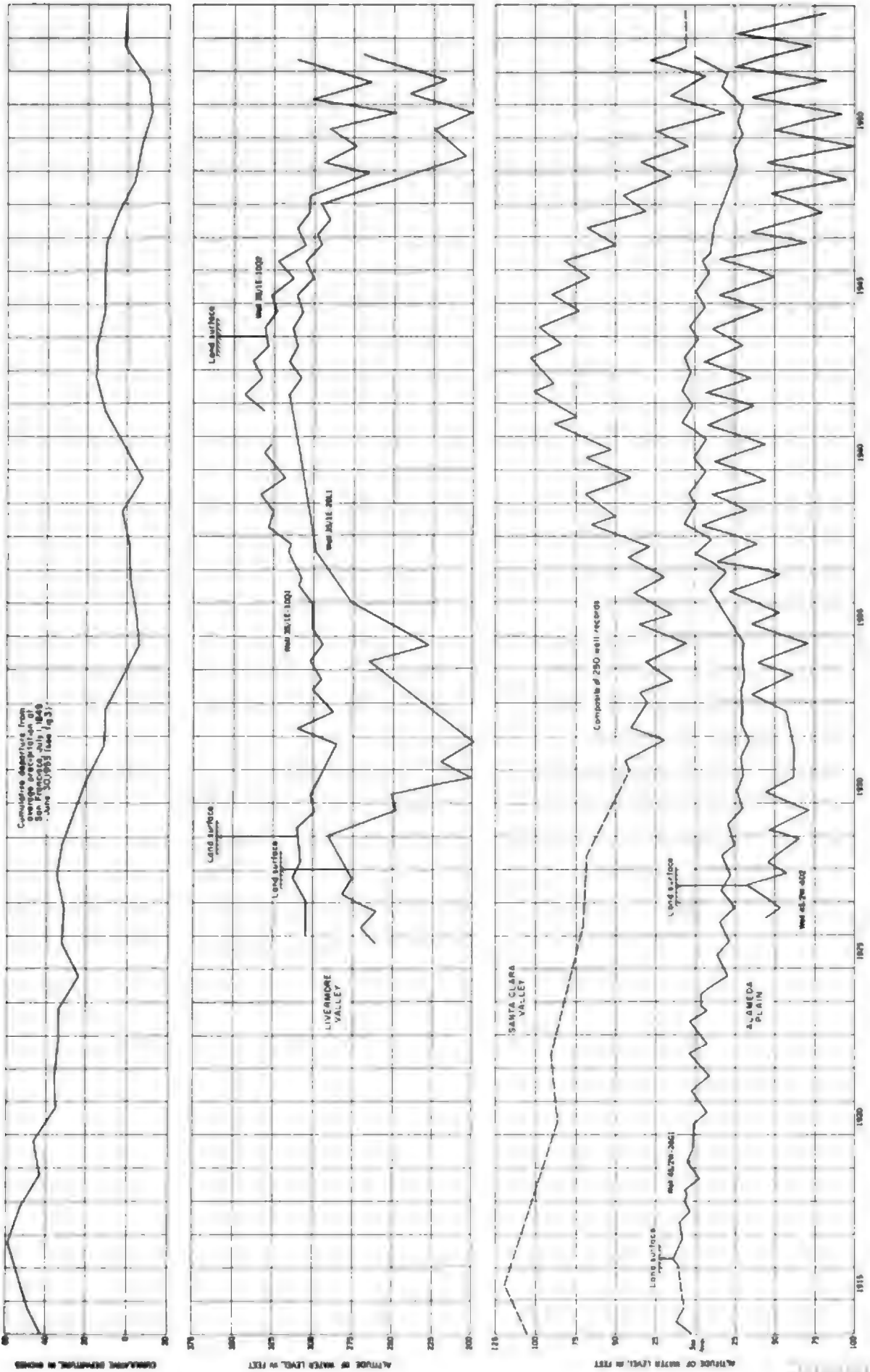


Figure 5.—Hydrographs of selected wells south of the bays and accumulated departure from average precipitation at San Francisco.

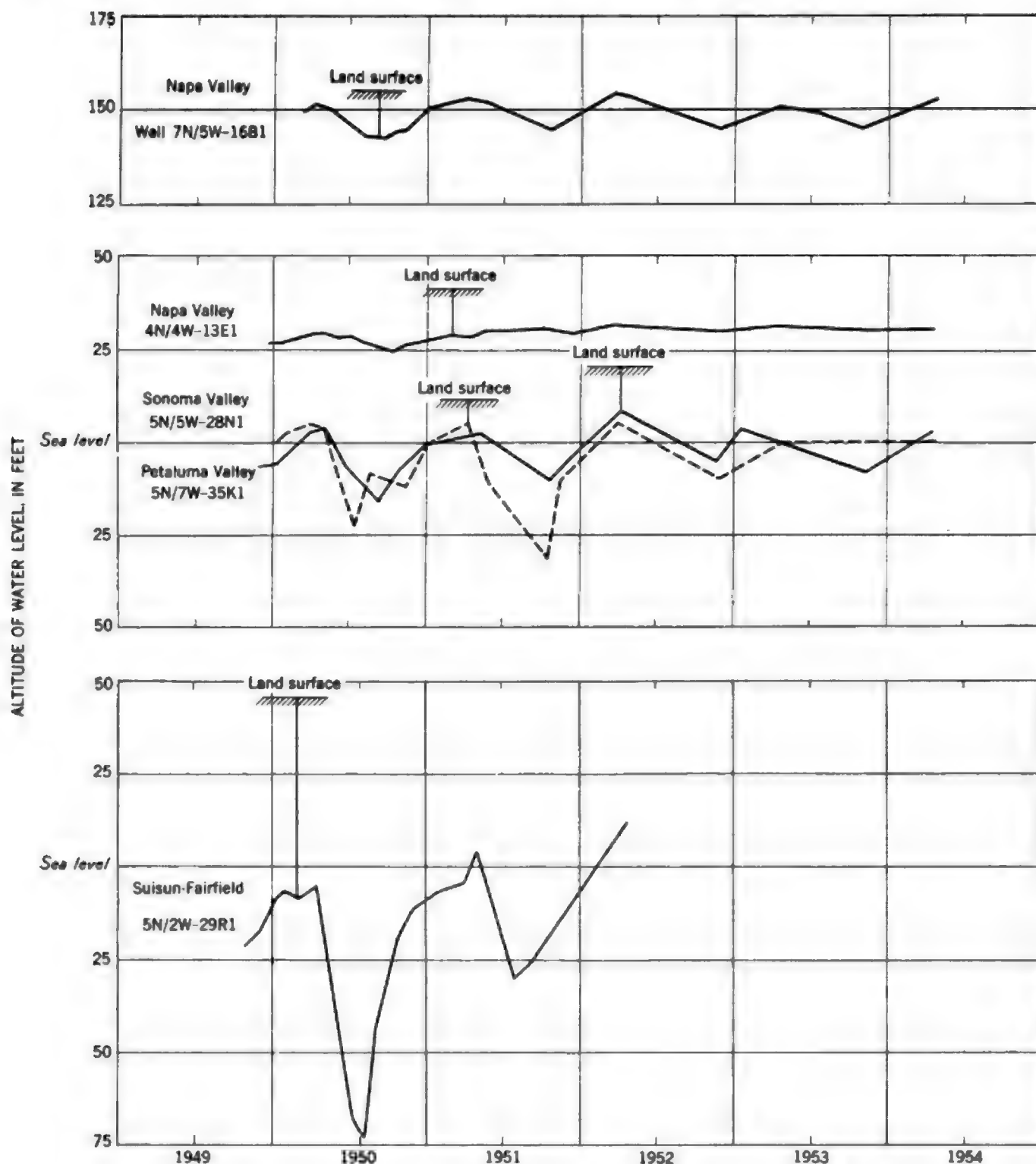


Figure 6.—Hydrographs of selected wells north of the bays.

Santa Clara Valley is the only place within the Bay Area where conservation works have been constructed for recharging of ground-water bodies.

Discharge

Discharge of water from the ground-water body can take place in several ways. Natural discharge is from

springs, seeps, and effluent streams, and by evaporation and transpiration.

Artificial discharge is by pumping from wells. Table 2 shows the pumpage for the major basins for which records are available.

Although, this table does not include all the ground-water pumpage in the Bay Area, it is a large part of

Table 2.—Ground-water pumpage in acre-feet in San Francisco Bay Area.

Ground-water basin	Year	Irrigation	Domestic	Industrial	Urban	Other	Total
Santa Clara Valley.....	Oct. 1948 to Sept. 1949	^a 197,500			31,800	2,300	231,600
Alameda plain.....	Oct. 1948 to Sept. 1949	38,700		8,000			46,700
Livermore Valley.....	Oct. 1949 to Sept. 1950	22,200			6,500		28,700
Suisun-Fairfield.....	Apr. 1949 to Mar. 1950						^b 7,900
Napa Valley.....	Apr. 1949 to Mar. 1950	3,000	1,000	130	730	700	5,560
Sonoma Valley.....	Apr. 1949 to Mar. 1950	1,900	500				2,400
Petaluma Valley.....	Jan. 1949 to Dec. 1949	250	720	120	760		1,850

^a Applied water; acres irrigated times amount of water used per acre.

^b Data not available for breakdown of total.

the total. About four-fifths of the ground water pumped is for irrigation. More than two-thirds of all ground-water pumpage in the Bay Area is in Santa Clara Valley.

Overdraft

A ground-water basin is overdrawn when the withdrawal rate is too great to be maintained perennially and lowers the water level below the economic pumping lift, or causes impairment of the water quality in the basin. A secondary problem developed by overdraft is land-surface subsidence, whereby the land surface lowers due to compaction of clay and silt layers as a result of a decline in hydrostatic pressure. The total annual natural and artificial discharge cannot exceed the annual replenishment for long periods without creating an overdraft.

Ground-Water Storage Capacity

The ground-water storage capacity of a specified volume of deposits in a ground-water basin is the amount of water that will drain out of those deposits by lowering the water level to their base.

For several reasons not all of this storage capacity may be susceptible to economic use. Therefore, usable storage capacity is defined as that portion of the storage capacity that can be economically dewatered during dry periods and resaturated during wet periods. In view of the many geologic and economic factors involved in estimating usable storage capacity, it has not been estimated for all the basins in the San Francisco Bay Area.

Table 3 shows the gross storage capacity of the basins for specified depth intervals. Although these figures are not necessarily usable storage, they present a relative comparison of amounts of water con-

tained within specified depth zones of each basin. The gross storage capacity is many times greater than the present annual pumpage. In times of emergency or drought these basins could produce much larger amounts of water, for a short period of time, than they now do. A large basin can be pumped at a rate exceeding the safe yield for a longer period of time than can a small basin. However, these gross storage supplies should be considered only a temporary source of water, because in many of these basins the present pumpage already exceeds the perennial or safe yield, which in general is the average recharge available to the basin.

Surface Water

San Francisco Bay System

The dominating surface-water feature in the San Francisco Bay Area is the San Francisco Bay system. The water of the bays in the San Francisco Bay Area is essentially ocean water. This highly concentrated saline water is not suitable for municipal, irrigational, or most industrial uses, although it is used for stream-electric plants, as raw water to produce salt by solar evaporation, and for the disposal of sewage.

Records of Streamflow

The San Francisco Bay Area does not contain any one dominant stream. However, the Sacramento and San Joaquin Rivers discharge into streams at the eastern end of Suisun Bay near Collinsville outside of the San Francisco Bay Area. The three major streams in the area are Alameda Creek, Napa River, and Coyote Creek, with a total drainage area of about 1,520 square miles or 38 percent of the land area. The combined runoff of these three streams represents about 30 percent of the total runoff of the area.

Table 3.—Estimated gross ground-water storage capacity, in acre-feet

Ground-water basin	Area in acres	Depth zones, in feet below land surface							
		10-50	15-50	25-100	50-100	100-200	Total of all zones		
							10-200	15-200	25-200
Santa Clara Valley.....	86,500			559,000		684,000			1,250,000
Livermore Valley.....	39,000			219,000		241,000			460,000
Suisun-Fairfield.....	20,800	47,000			68,000	111,000	228,000		
Napa.....	39,700	78,000			65,000	104,000	247,000		
Sonoma.....	16,500		44,000		54,000	87,000		185,000	
Petaluma.....	12,050	51,000			62,000	95,000	208,000		

Streamflow information is currently obtained by the Geological Survey at 24 gaging stations in the San Francisco Bay Area and at other times 28 additional stations have been operated. The duration of published records is shown in figure 7. The locations of the stations are shown on plate 2.

Floods

The San Francisco Bay Area is rarely subjected to area-wide floods. The mountains and bays subdivide the area into relatively small and independent valleys thus eliminating the cumulative effect that might be found in a single-stream system.

Floods on the various streams in the area are caused by intense rains. Available records show that melting snow has not affected flood peak discharges or

flood volumes to any significant degree. Floods are usually of short duration and normally do not cause great damage.

At times, however, outstanding floods have occurred. Records going back to 1787 mention storms during the winter of 1798-99 which were reported to have lasted for 28 days, and rains of January and February 1819 which caused floods that changed the courses of many streams.

The floods of 1861-62 caused considerable damage in the towns of Napa, Alvarado, and San Leandro, and in San Mateo and Santa Clara Counties. In December 1867, Petaluma Creek was the highest since the town of Petaluma was settled. Floods on the Napa River and Petaluma Creek in January 1881 exceeded any other known flood. During the 1889-90 season, the greatest

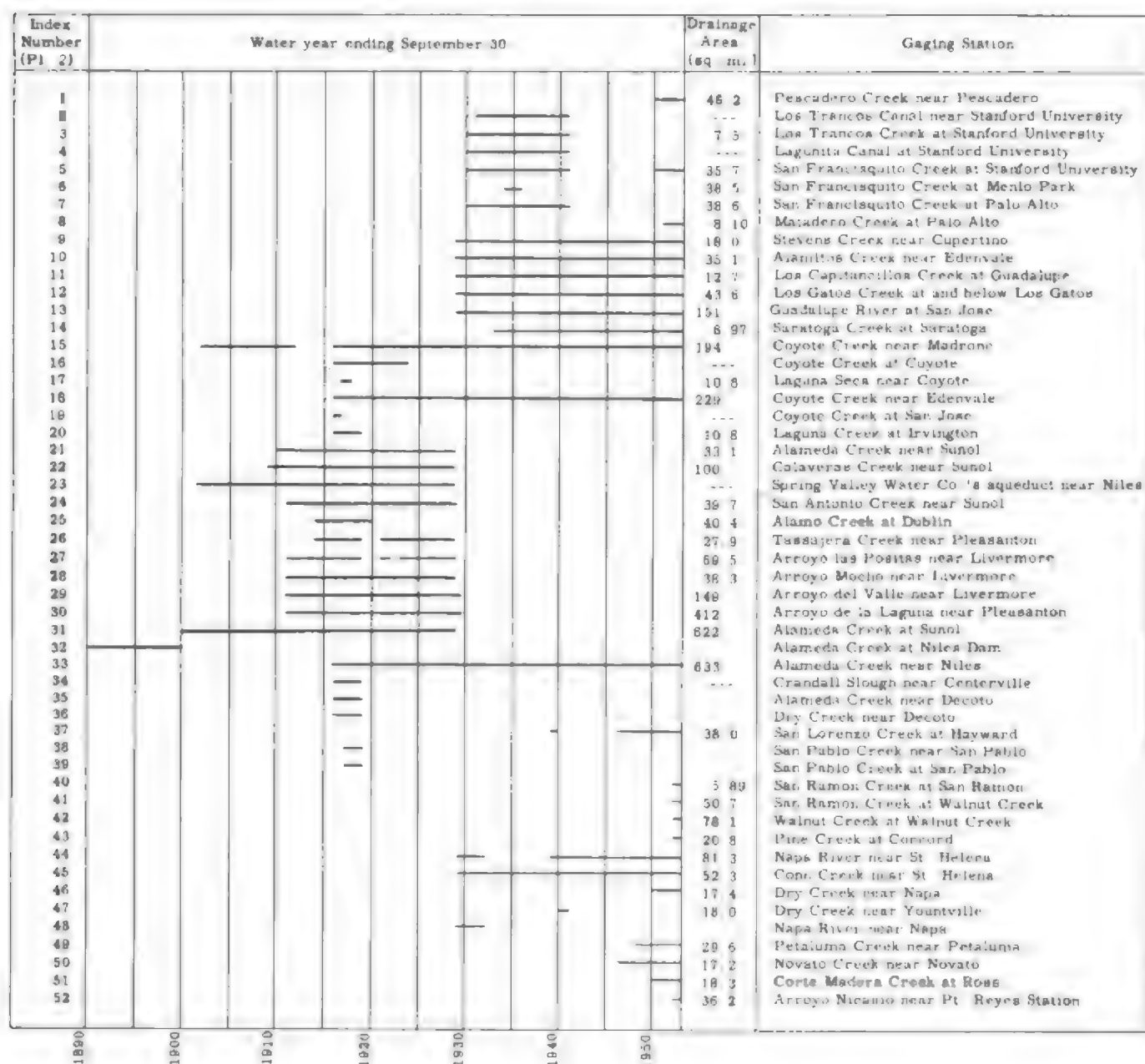


Figure 7. —Duration of published streamflow records in the San Francisco Bay Area.

precipitation on record occurred at many points in the San Francisco Bay Area. On January 24 and 25, 1890, the flood near San Jose was the greatest since 1862, and probably has not been equaled since. The 1890 flood on the Napa River at Napa was reported to be only a foot below the record height set in 1881. In March 1907, floods of Los Gatos Creek and other streams in the Santa Clara Valley were especially severe and flooded land near San Jose. Alameda Creek, as a result of this flood, was as high as it had been in 1895.

In addition to those floods mentioned above, floods of moderate extent occurred in some portion of the San Francisco Bay Area in 23 different years since 1849.

The flood of January 12, 1952, was the highest in Alameda Creek during the period of record which started in 1916, and probably the highest since the flood of November 1892. Storage capacity of 96,900 acre-feet has been effective since 1925.

Conservation and flood-control reservoirs in many of the basins reduced the peak discharges that otherwise would have resulted, but nevertheless, damage from the 1952 flood amounted to about \$1,400,000 in the Stevens Creek, Gaudalupe River, Saratoga Creek, Alameda Creek, and San Lorenzo Creek basins.

Flood waters from many storms have been retained in reservoirs operated by the Santa Clara Valley Water Conservation District since about 1935 for subsequent release at controlled rates to replenish the ground-water supplies.

Precipitation records and historical accounts indicate that the San Francisco Bay Area has not experienced a major or area-wide flood since 1889-90. Most of the streams in the area have no storage or insufficient storage to control major floods. In the event of an outstanding flood, those industrial and residential developments which have encroached on the flood plains can expect damage.

Figures 13 and 16 are flood frequency curves for Alameda Creek near Niles and the Napa River near St. Helena, respectively.

Significance of the Chemical and Physical Characteristics of Water

The surface and ground waters in the San Francisco Bay Area have many uses and it is difficult to devise a single set of standards for all uses. Water considered good by one consumer may be considered poor by another. Water use in the area can be divided roughly into three classes; domestic, industrial, and irrigation. Domestic consumers are mainly concerned with the hardness, iron, manganese, fluoride, nitrate, and sulfate content and the sanitary quality of the water. Industrial consumers are interested in the total dissolved minerals, hardness, alkalinity, hydrogen ion concentration, turbidity, color, and corrosiveness of the water. Irrigation consumers are interested primarily in the total dissolved

minerals, chloride and boron content, and the percent sodium¹. They are interested also in the chemical composition of the irrigation water because it is related to soil structure and crop growth.

Maximum allowable concentration of some constituents in potable water to be used by interstate carriers have been established by the Public Health Service as follows:

	ppm
Iron plus manganese.....	0.3
Magnesium.....	125
Sulfate.....	250
Chloride.....	250
Fluoride.....	1.5
Dissolved solids.....	*500

a1,000 ppm permitted if water of better quality is not available.

To the industrial user, the quality of water is often of greater importance than the quantity. The cost of treating water of poor quality sometimes exceeds the cost of developing an original supply. Quality requirements for process water are often critical and the water must frequently be modified to meet specific requirements.

The chemical quality of stream water in the San Francisco Bay Area is generally suitable for most domestic, industrial, commercial, and irrigation use. Most of the rivers and streams have low to moderate concentrations of total solids. Alameda Creek and its tributary streams are the main exceptions. For purposes of this report, the classification of total concentration of waters is as follows:

Concentration	Specific conductance (micromhos) ^a
Very low.....	0 - 150
Low.....	150 - 400
Moderate.....	400 - 1,000
High.....	1,000 - 2,500
Very high.....	over 2,500

^a Reciprocal of ohms times 10⁶

In general the surface waters are of a calcium bicarbonate type and many are high in calcium and magnesium hardness.

The total concentration of the rivers and streams varies greatly due to the seasonal variations in precipitation. During the winter, heavy precipitation increases streamflow and total mineral concentration decreases. In the dry season of summer and fall, streamflow decreases and the concentration increases. Figure 8 shows the maximum and minimum recorded concentration of chemical constituents in selected surface waters in the area. A large range in concentration was observed for all of the streams except Coyote

¹One hundred times sodium divided by the sum of sodium, calcium, magnesium, and potassium, all expressed in equivalents per million.

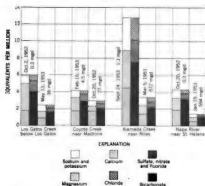


Figure 8. —Maximum and minimum concentration of chemical constituents in selected streams in the San Francisco Bay Area.

Creek. This stream has a controlled flow from a regulating reservoir which effectively reduces large variations in quality.

WATER SUPPLY OF SUBAREAS

The 8 major ground-water basins in the San Francisco Bay Area are the alluvial deposits in Santa Clara Valley, southern Alameda County, Livermore Valley, Ygnacio and Clayton Valleys, Pittsburg plain area, Suisun-Fairfield area, and Napa, Sonoma, and Petaluma Valleys.

The most important streams in the area are Coyote Creek, Alameda Creek, and Napa River. Many streams have retention reservoirs to replenish ground-water basins by controlled releases of water. The estimated mean annual runoff of the San Francisco Bay Area is about 1,250,000 acre-feet, and since water year 1895 it has ranged from about 90,000 acre-feet in water year 1924 to about 3,100,000 acre-feet in water year 1907. This runoff is not distributed evenly throughout the year; about 80 percent of the runoff occurs between November 1 and May 1.

Supplemental water supplies are brought into the area from the Sacramento and San Joaquin River basins by means of the Mokelumne and Hetch Hetchy aqueducts, the Contra Costa Canal, and by diversion from Cache Slough. (See pl. 5.)

San Mateo County

San Mateo County is on San Francisco peninsula, between the Pacific Ocean and the bay. A small amount

of ground water is pumped from the narrow, sloping plain adjacent to the bay. With the exception of Pescadero and San Francisco Creeks, most of the streams on the peninsula are small. The principal streams draining into the ocean are Pescadero, San Gregorio, Tunitas, Purisima, Pilarcitos, and San Pedro Creeks. Those on the bay side are Colma, San Mateo and San Francisco Creeks. All of this latter group except San Mateo Creek enter San Francisco Bay through tidal marshes.

Surface Water

Pescadero Creek is in a canyon for most of its length; only the lower 5 miles of channel are in open country. Average annual precipitation in the basin ranges from about 19 inches along the coast to 45 inches in the mountains, and the annual runoff averages about 12 inches. The drainage area above the gaging station near Pescadero is 46,2 square miles, or 77 percent of the entire basin.

Discharge

Streamflow records have been obtained on Pescadero Creek since April 1951. The mean discharges for the water years 1952 and 1953 were 59.6 mgd (92.2 cfs) and 28.5 mgd (44.1 cfs), respectively. The maximum discharge was 3,440 cfs on Dec. 7, 1952, and the minimum was 0.71 mgd (1.1 cfs) on Oct. 4, 1952.

Flow characteristics of Pescadero Creek are shown by the flow-duration curve (fig. 9). A flow-duration curve based on a short period of record will not show the flow characteristics of the stream unless streamflow during the short period was about normal. The flow-duration curve for a single year may be quite different from the curve for several years. (See fig. 11.) The duration curves shown in this report have been adjusted by statistical methods to the period 1932-53 by using records of nearby streams and may be considered to represent about normal streamflow. The flow-duration curve may be used to show the percentage of time that a specified daily flow in million gallons per day or cubic feet per second probably will be equaled or exceeded.

A gaging station was operated on San Francisco Creek, from 1931 to 1941 and since 1950. (See fig. 7.) Some discharge data for this stream is given in table 4.

Stanford University obtains water for irrigation on the campus through a pipeline from Searsville Lake (capacity 952 acre-feet,) on San Francisco Creek, and from Los Trancos Creek by way of the Lagunita and Los Trancos Canals.

Quality

Analyses of water from several streams in San Mateo County are given in table 5. Most of the streams have been sampled during periods of high flow and low flow,

Table 4.—Discharge of San Francisquito, Matadero, and Stevens Creeks

Gaging station	Average			Maximum		Minimum	
	Period of record	Discharge		Discharge (cfs)	Date	Discharge (mgd)	Date
		mgd	cfs				
San Francisquito Creek at Stanford University.	1931-41, 1950-53	14.0	21.7	3,650	Nov. 18, 1950	No flow	Each year
Matadero Creek at Palo Alto.....	1952-53	.....	.....	535	Dec. 6, 1952	No flow	Each year
Stevens Creek near Cupertino.....	1930-53	8.1	12.5	2,390	Feb. 28, 1940	No flow	Most years

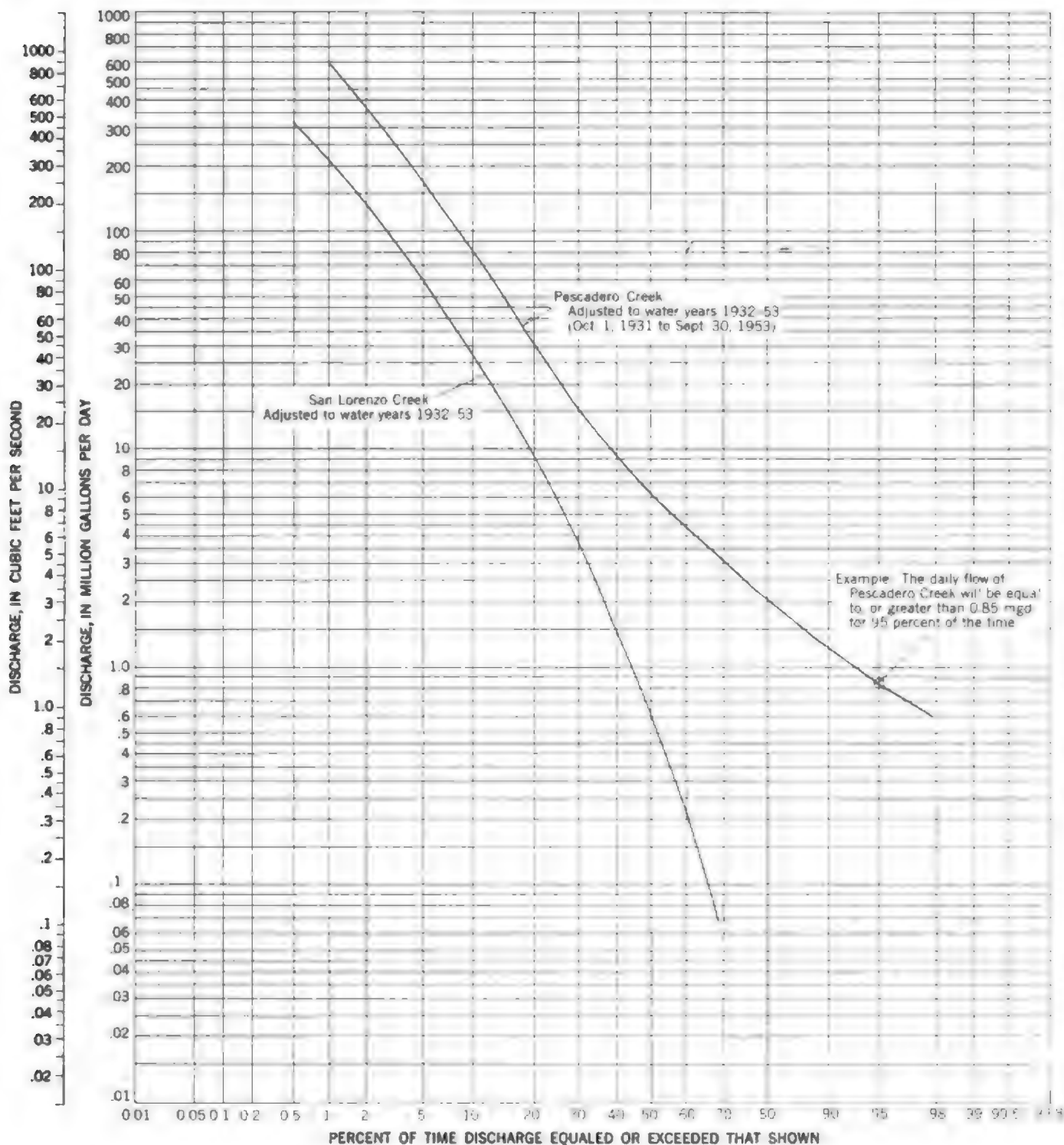


Figure 9.—Duration curves of daily flow, Pescadero Creek near Pescadero and San Lorenzo Creek at Hayward.

Table 5.—Selected analyses of surface waters in the San Francisco Bay Area

(Results in parts per million except as indicated)

Date of collection	Mean discharge (cfs)	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Boron (B)	Dissolved solids		Hardness as CaCO ₃		Percent sodium	Specific conductance (micro-mhos at 25°C)	pH
														Parts per million	Tons per acre-foot	Total	Non-carbonate			
Pescadero Creek - 2 Miles East of Pescadero																				
Jan. 28, 1953.....		26	0.2	43	13	25	2.0	157	54	24	0.2	1.1	0.08	266	0.36	161	32	25	422	7.9
June 10, 1953.....		23	.1	59	16	38	2.7	220	67	33	.3	.3	.18	348	.47	213	32	28	556	7.7
San Gregorio Creek - at Bellvale Schoolhouse, Bellvale																				
Jan. 28, 1953.....		30	0.0	55	23	36	2.4	218	91	28	0.3	1.1	0.10	374	0.51	232	53	25	588	8.1
June 10, 1953.....		28	.0	70	33	51	3.2	286	128	41	.3	.4	.15	496	.67	310	76	26	780	7.8
Tunitas Creek - 1.6 Miles South of Martins Beach																				
Jan. 28, 1953.....		22	0.1	42	17	52	1.5	153	83	58	0.3	2.0	0.13	353	0.48	175	50	39	586	7.8
June 10, 1953.....		22	.0	66	29	81	2.7	236	123	98	.2	.5	.26	539	.73	284	90	38	896	7.4
Purissima Creek - 3.5 Miles South of Halfmoon Bay																				
Jan. 28, 1953.....		22	0.00	57	14	30	2.0	188	68	31	0.3	1.3	0.04	318	0.43	199	45	24	514	7.7
June 10, 1953.....		20	.0	74	17	34	2.4	254	69	36	.3	.3	.06	378	.51	254	46	22	601	8.4
Pilarcitos Creek - East of Halfmoon Bay																				
Jan. 28, 1953.....		20	0.1	39	12	30	2.0	136	38	37	0.3	5.7	0.00	251	0.34	147	35	30	425	7.2
June 10, 1953.....		22	.0	44	16	34	2.0	179	37	46	.3	2.1	.08	292	.40	176	30	29	490	7.5
Frenchman Creek - Approximately 1 Mile South of Miramar																				
June 10, 1953.....		21	0.0	22	9.4	23	1.0	106	13	30	0.3	1.1	0.02	173	0.24	94	7	35	289	7.4
Jan. 28, 1953.....		23	.2	13	7.4	26	1.3	73	12	32	.2	3.5	.03	154	.21	63	3	47	246	7.4
Denniston Creek - South of Moss Beach Upstream From Dam																				
Jan. 28, 1953.....		21	0.3	15	5.0	21	0.8	60	12	29	0.2	3.3	0.04	137	0.19	58	9	44	220	6.8
June 9, 1953.....		20	.4	20	6.2	22	.4	81	10	31	.2	1.0	.02	151	.21	75	9	39	253	7.5

Vicente Creek - South of Moss Beach, Bridge Crossing, East of Highway no 1

Jan. 28, 1953.....	23	0.4	12	5.3	24	0.7	51	12	33	0.3	4.2	0.01	140	0.19	52	10	50	217	7.4
June 9, 1953.....	22	.0	18	5.9	25	.4	70	11	38	.5	1.6	.03	157	.21	69	12	44	254	7.3

San Pedro Creek - Outlet to Ocean

Jan. 27, 1953.....	16	0.0	23	11	21	1.0	110	17	28	0.3	3.7	0.01	175	0.24	103	12	31	300	7.3
June 9, 1953.....	16	.0	26	12	21	.7	126	17	28	.2	1.5	.02	184	.25	114	11	28	314	8.2

Los Gatos Creek Near Los Gatos

Oct. 2, 1952.....	0.5	18	0.00	35	20	1.6	248	54	18	0.1	4.0	0.09	312	0.42	248	45	15	531	7.8
Nov. 12, 1952a.....	1.4	.....	.....	.....	.....	.....	266	.....	18	.....	.....	.....	.....	.....	250	.....	.....	538	8.0
Dec. 16, 1952a.....	27	.....	.....	.....	.....	.....	194	.....	15	.....	.....	.....	.....	.....	227	.....	.....	501	7.7
Jan. 21, 1953.....	26	.....	.....	33	17	1.2	146	.....	12	.....	.....	.....	.....	.....	152	33	15	344	7.8
Feb. 16, 1953.....	40	.....	.....	35	15	1.6	148	.....	8.0	.....	.....	.....	.....	.....	149	28	16	338	7.6
Mar. 26, 1953.....	55	.....	.....	28	14	.....	154	.....	8.0	.....	.....	.....	.....	.....	127	1	16	296	7.5
Apr. 20, 1953.....	58	.....	.....	36	15	.....	151	.....	8.5	.....	.....	.....	.....	.....	152	28	15	334	8.1
May 13, 1953.....	56	38	.0	18	9.2	2.2	102	13	12	.3	4.4	.24	163	.22	83	0	29	234	7.8
June 19, 1953a.....	10	.....	.....	.....	.....	.....	208	.....	10	.....	.....	.03	.....	.....	210	.....	15	448	8.1
July 15, 1953a.....	3.3	.....	.....	.....	.....	.....	224	.....	16	.....	.....	.08	.....	.....	222	.....	15	421	8.0
Aug. 18, 1953.....	3.5	.....	.....	46	21	1.6	216	.....	10	.....	.....	.....	.....	.....	201	24	14	435	8.2
Sept. 24, 1953.....	3.7	14	b.12	44	19	1.3	200	37	9.5	.2	.4	.10	240	.33	188	24	16	399	8.2

WATER SUPPLY OF SUBAREAS

Coyote Creek Near Mallrone

Oct. 20, 1952.....	42	12	0.00	28	11	1.8	126	25	11	0.2	0.5	0.11	166	0.23	115	0	21	272	7.6
Nov. 12, 1952a.....	46	.....	.....	.....	.....	.....	130	.....	8	.....	.....	.....	.....	.....	118	.....	.....	284	7.8
Dec. 16, 1952a.....	66	.....	.....	.....	.....	.....	133	.....	7	.....	.....	.....	.....	.....	117	.....	.....	275	7.7
Jan. 20, 1953.....	60	.....	.....	35	14	2.0	156	.....	10	.....	.....	.....	.....	.....	145	17	19	341	8.0
Feb. 16, 1953.....	7.0	.....	.....	35	19	1.9	179	.....	12	.....	.....	.....	.....	.....	165	19	18	374	8.3
Mar. 25, 1953.....	53	.....	.....	31	16	.....	162	.....	12	.....	.....	.....	.....	.....	143	10	20	339	7.8
Apr. 21, 1953.....	56	.....	.....	34	14	.....	160	.....	9.5	.....	.....	.05	.....	.....	142	11	20	334	7.9
May 13, 1953.....	46	8.6	.1	32	16	2.2	160	31	10	.2	1.0	.10	195	.27	146	15	18	339	7.9
June 18, 1953a.....	33	.....	.....	.....	.....	.....	160	.....	10	.....	.....	.07	.....	.....	148	.....	18	324	8.1
July 15, 1953a.....	52	.....	.....	.....	.....	.....	166	.....	11	.....	.....	.08	.....	.....	146	.....	19	332	7.6
Aug. 18, 1953.....	44	.....	.....	34	16	2.2	170	.....	9.0	.....	.....	.06	.....	.....	151	11	18	343	7.8
Sept. 24, 1953.....	52	9.0	b.20	33	17	2.0	171	28	10	.3	1.1	.06	200	.27	152	12	17	349	7.8

Alameda Creek Near Niles

Oct. 21, 1952.....	2.0	15	0.00	78	52	79	398	140	75	0.2	0.1	0.82	640	0.87	408	82	29	1040	8.0
Nov. 12, 1952a.....	1.8	.....	.....	.....	.....	.....	436	.....	71	.....	.....	.....	.....	.....	404	.....	.....	1015	8.4
Dec. 16, 1952a.....	13	.....	.....	.....	.....	.....	305	.....	88	.....	.....	.....	.....	.....	325	.....	.....	895	8.3
Jan. 20, 1953.....	278	.....	.....	53	24	45	244	.....	39	.....	.....	.....	.....	.....	230	30	30	611	8.1
Feb. 16, 1953.....	36	.....	.....	69	44	77	358	.....	73	.....	.....	.....	.....	.....	353	60	32	964	8.2

See footnotes at end of table.

Table 5.—Selected analyses of surface waters in the San Francisco Bay Area—Continued

Date of collection	Mean discharge (cfs)	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Iron (B)	Dissolved solids		Hardness as CaCO ₃		Percent sodium	Specific conductance (micro-mhos at 25°C)	pH	
														Parts per million	Tons per acre-foot	Total	Non-carbonate				
Alameda Creek Near Niles—Continued																					
Mar. 25, 1953.....	27	.....	.....	36	51	56	.....	313	.....	57	.....	.....	0.41	.....	.....	300	43	29	805	7.8
Apr. 21, 1953.....	10	.....	.....	82	43	96	.....	394	.....	92	.....	.....	.51	.....	.....	382	58	35	1060	8.2
May 13, 1953.....	5.4	14	0.0	77	43	84	4.8	380	119	89	0.2	0.8	.72	619	0.84	369	57	33	1010	8.3	
June 18, 1953a.....	3.0	.....	.....	.....	.....	.....	.....	404	.....	82	.....	.....	.68	.....	.....	384	.....	32	969	8.2
July 15, 1953a.....	2.9	.....	.....	.....	.....	.....	.....	404	.....	40	.....	.....	1.08	.....	.....	398	.....	31	973	8.3
Aug. 18, 1953.....	2.1	.....	.....	85	47	83	5.3	424	.....	78	.....	.....	.67	.....	.....	406	58	30	1040	8.0
Sept. 24, 1953.....	2.0	21	6.09	89	54	86	7.1	460	122	91	.3	.1	.86	697	.95	444	67	29	1130	8.2	
Sweetwater Creek Near San Antonio Valley																					
Jan. 28, 1953.....	.....	22	.....	14	131	9.2	0.9	671	21	12	0.0	0.7	0.00	542	0.74	574	0	3	913	8.6
Tributary to Sweetwater Creek (Unnamed) Near Westvaco Mine Co.																					
Jan. 28, 1953.....	.....	41	.....	6.0	167	5.0	0.4	825	10	9.5	0.0	1.7	0.00	648	0.88	702	26	2	1070	8.5
Colorado Creek Near San Antonio Road																					
Jan. 28, 1953.....	.....	8.3	.....	20	88	9.0	0.8	8476	16	10	0.0	0.0	0.03	386	0.52	412	22	5	683	8.6
Cayetano Creek Near Livermore																					
Jan. 30, 1953.....	.....	24	.....	57	38	150	2.0	414	95	128	0.6	8.9	0.72	707	0.96	298	0	52	1180	8.3
Cottonwood Creek Near Inman School																					
Jan. 30, 1953.....	.....	10	.....	42	27	308	4.1	1570	116	204	0.7	9.6	1.0	1000	1.36	216	0	75	1680	8.3
Altamont Creek - 4½ Miles Northeast of Livermore																					
Jan. 30, 1953.....	.....	7.2	.....	59	60	376	5.4	1653	122	388	1.4	14	3.9	1360	1.85	394	0	67	2340	8.4
San Lorenzo Creek at Highway 50, Near Castro Valley																					
Mar. 8, 1954.....	.....	.....	.....	81	30	57	2.3	326	.....	56	.....	.....	0.38	.....	.....	326	58	27	823	8.2
Jan. 11, 1954.....	.....	12	.....	80	27	7	3.2	294	82	74	0.3	2.1	.60	482	0.66	310	70	28	772	8.1

WATER SUPPLY OF SUBAREAS

19

San Leandro Creek at Highway 50 at Oakland City Limits

Jan. 29, 1953.....	13	...	52	32	31	1.2	275	51	34	0.2	3.1	0.06	353	0.48	261	36	20	605	7.8
Jan. 11, 1954.....	13	...	46	30	27	2.2	265	32	28	.2	2.3	.67	311	.42	238	22	20	544	7.9

San Ramon Creek Southeast of San Ramon

Feb. 19, 1953.....	19	0.0	89	16	53	1.3	318	61	24	0.3	3.3	0.13	404	0.55	288	28	20	652	8.2
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Walnut Creek 50 Feet Downstream at Ygnacio Valley Road

Feb. 19, 1953.....	11	0.0	95	34	81	2.3	384	134	60	0.3	1.9	0.26	609	0.83	377	62	32	985	8.3
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Napa River Near St. Helena

Oct. 20, 1952.....	0.5	32	0.00	38	17	20	3.3	198	24	12	0.1	2.3	0.28	246	0.33	165	2	20	385	7.6
Nov. 14, 1952a.....	2.8	...	...	...	...	...	...	184	...	12	...	...	...	...	...	154	...	...	380	7.3
Dec. 15, 1952a.....	103	...	...	...	...	...	...	66	...	9	...	...	...	...	...	62	...	...	189	7.3
Jan. 19, 1953.....	919	...	...	...	...	...	...	63	...	5.2	...	...	...	...	...	51	0	23	136	7.3
Feb. 11, 1953.....	48	...	...	...	...	...	...	93	...	10	...	...	...	...	...	77	1	26	219	7.6
Mar. 11, 1953.....	32	...	...	...	...	...	...	107	...	16	...	...	.18	...	...	88	0	31	255	7.4
Apr. 17, 1953.....	33	...	...	...	...	...	...	100	...	12	...	...	.24	...	...	79	0	31	229	7.7
May 18, 1953.....	26	...	...	...	...	...	...	156	...	4.5	.2	1.3	.11	213	.29	158	30	15	354	8.0
June 17, 1953a.....	10	...	...	...	...	...	...	128	...	14	...	...	.30	...	...	108	...	27	355	7.5
July 13, 1953a.....	4.0	...	...	...	...	...	...	158	...	13	...	...	.29	...	...	146	...	21	348	7.2
Aug. 14, 1953.....	1.3	...	...	...	...	...	...	179	...	10	...	...	.22	...	...	155	9	18	362	8.4
Sept. 24, 1953.....	1.5	...	...	...	...	...	...	183	...	12	.2	3.2	.27	228	.31	152	2	19	358	7.9

Petaluma Creek at USGS Station, Willowbrook, Corona Street Bridge

Mar. 11, 1954.....	...	19	...	33	18	31	11	150	32	54	0.4	3.0	0.15	275	0.37	156	33	28	491	7.4
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Novato Creek

Mar. 11, 1954.....	...	15	...	24	16	22	5.9	125	21	34	0.2	8.8	0.00	208	0.28	126	23	26	367	7.4
Apr. 1953k.....	...	...	...	26	11	6.7	...	64	32	17	.2	.2	...	125	.17	108	...	12	...	...

a Analyses by Division of Water Resources, State of California

b Total iron

c Includes equivalent of 5 parts per million CO₃ (carbonate)

d Includes equivalent of 23 parts per million CO₃ (carbonate)

e Includes equivalent of 36 parts per million CO₃ (carbonate)

f Includes equivalent of 33 parts per million CO₃ (carbonate)

g Includes equivalent of 26 parts per million CO₃ (carbonate)

h Includes equivalent of 8 parts per million CO₃ (carbonate)

i Includes equivalent of 7 parts per million CO₃ (carbonate)

j Includes equivalent of 18 parts per million CO₃ (carbonate)

k Analysis by Marin County Health Department

During the winter, when the streamflow is high, the waters generally have a lower concentration than during the summer. The waters are generally of the calcium and magnesium bicarbonate type.

Santa Clara Valley

Santa Clara Valley is an elongate valley that extends about 50 miles southeastward from San Francisco Bay. The valley is separated into a northern and southern part by a low ridge of hills about 25 miles south of the Bay. This report is concerned only with the northern part of the valley. The width of the northern part ranges from about 15 miles at the north end to less than a mile at the southern end, and has an area of about 250 square miles. The major streams of Santa Clara Valley are Guadalupe River and Coyote Creek.

Ground Water

The formations in Santa Clara Valley are divided into three groups, as shown on plate 1, based on their relative water-yielding properties. The Quaternary alluvium, (fig. 10) uppermost and youngest group of the threefold classification, is composed of sand, gravel, and clay, and the maximum thickness is about 1,000 feet. The alluvium is the main source of ground water. The intermediate group of rocks, referred to as the secondary aquifer, consists of the Santa Clara formation of Pliocene and Pleistocene age. This group consists of a maximum of 4,000 feet of continental sand, gravel, silt, and clay. The third group is essentially non-water-bearing rocks that range in age from late Jurassic to middle Pliocene.

Ground water in Santa Clara Valley occurs in both confined and unconfined conditions. The area of confined water, approximately 78,600 acres, extends from about 4 miles southeast of San Jose to at least several miles north beneath San Francisco Bay, and from near Palo Alto on the west to near Milpitas on the east. It is overlain by a body of semiperched water. The area of unconfined water, about 86,500 acres, is upslope from the confined area and extends to the foothills.

Yield and depth of wells

The depth of wells in Santa Clara Valley ranges from less than 50 feet to about 1,000 feet with most being from 300 to 500 feet deep. Because of the wide range in well depths and amount of water-bearing material penetrated, well yields also range widely, from less than 50 gpm to nearly 2,000 gpm. Most of the wells produce 400 to 600 gpm.

Water-level fluctuations

The hydrograph for Santa Clara Valley on figure 5 is a composite of records from 250 wells distributed throughout the valley, and measured by the Santa Clara Water Conservation District. The average water level is plotted as altitude above sea level. During the early 1900's, when irrigation was becoming important, the water levels were more than 100 feet above sea level. During the drought of the early 1930's the average water levels dropped to slightly above sea level. The water levels rose almost to their original height during the wet

period of the early 1940's. In 1943 the water levels began to fall and the average reached a record low of nearly 25 feet below sea level in the autumn of 1950. Levels began to rise in 1950 and were still rising in 1954.

Pumpage

The total ground water pumpage during water year 1949 was estimated to be 231,600 acre-feet; irrigation use amounted to 197,500 acre-feet; urban use was 31,800 acre-feet, and other uses totaled 2,300. According to estimates by California Division of Water Resources the ground-water withdrawals in 1948-49 created an overdraft of 36,700 acre-feet. Excessive pumping in Santa Clara Valley develops two potentially serious problems; one is salt-water encroachment from San Francisco Bay, the other is land surface subsidence that causes many engineering problems.

Salt-water encroachment

In Santa Clara Valley the normal hydraulic gradient of the confined water body is toward the Bay. However, the gradient has been reversed at times because of the excessive lowering of water levels due to heavy pumping during dry periods. During the autumn of 1949 water levels in some areas were more than 800 feet below sea level.

Encroachment of saline water may deteriorate the confined ground-water body in Santa Clara Valley if the Bay waters have access to the deep water body. Studies by Tolman and Poland in 1940 showed a fringe of salt-water encroachment from San Francisco Bay. These investigations indicated that contamination was caused chiefly by movement of salty perched water through defective and abandoned wells, and through gravel deposits of streams draining into the bay. Salt-water encroachment was primarily restricted to gravels less than 100 feet below the land surface. Impervious layers of clay prevented percolation of salt water below this depth except where the clay had been punctured by wells. Many of the old wells have been plugged to prevent percolation to the principal water body. Studies made by the California Division of Water Resources in 1949 indicated that no significant inflow of saline water has occurred in Santa Clara Valley, and that the principal water body has not become contaminated, with the possible exception of the area near Palo Alto.

Land-surface subsidence

The land surface in certain areas has lowered nearly 8 feet between 1912 and 1954. This sinking is limited to areas underlain by the confining clay bed, and covers an area of about 120 square miles.

This area was resurveyed 10 times between 1933 and 1940, and again in 1948 and 1954. The rate of subsidence was not uniform over the area. The greatest subsidence during the 15-year period from 1933 to 1948 was about 1½ feet at Sunnyvale. The maximum subsidence in Santa Clara Valley for the 6-year period from 1948 to 1954 was 2.5 feet. The subsidence is believed to be due chiefly to the compaction of silt and clay layers caused by the decrease in hydrostatic pressure.

Quality

Most of the ground water in the Santa Clara Valley is a calcium bicarbonate type. (See table 6.) Some wells

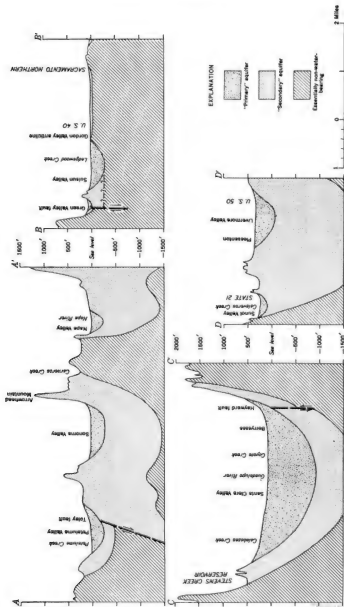


Figure 10.—Generalized geologic cross-sections of ground-water basins. For location of sections see pl. 1.

Table 6. - Selected chemical quality data for ground waters in the San Francisco Bay Area

Location	Water-bearing formation	Depth (in feet)	Temp-erature (°F)	Date of collection	Silica (SiO ₂)	Cal-cium (Ca)	Magne-sium (Mg)	Sodium (Na)	Potas-sium (K)	Bicar-bonate (HCO ₃)	Sulfate (SO ₄)	Chlo-ride (Cl)	Fluo-ride (F)	Ni-trate (NO ₃)	Boron (B)	Hardness as CaCO ₃		Specific conductance (micro-mhos at 25°C)	pH
																Sum	Total		
Santa Clara Valley																			
5S/W-35G1			66.2	Aug. 13, 1953	26	43	13	81	1.5	268	44	55	0.2	0.4	0.12	396	161	643	7.9
6S/W-4M1			69.8	Aug. 11, 1953	28	69	38	85	2.2	472	53	73	0.4	1.9	0.07	619	378	1020	8.1
6S/W-30M1			69.8	Aug. 11, 1953	28	68	23	32	1.5	290	46	28	0.1	4.8	0.05	374	264	612	7.7
6S/W-14L1			66.2	Aug. 11, 1953	27	88	24	56	1.3	322	91	52	0.0	0.5	0.06	406	313	798	7.8
6S/W-21B1			64.4	Aug. 12, 1953	29	69	27	32	1.3	328	73	34	0.1	6.7	0.05	453	333	794	7.8
6S/W-36H2			68	Aug. 12, 1953	27	95	25	32	1.8	346	48	50	0.1	4.4	0.14	455	340	782	7.6
6S/W-1D1		750	72	Sept. 23, 1952	30	34	11	118	1.6	272	34	88	0.0	4.2	0.08	451	130	586	8.0
7S/W-3G1			69.8	Aug. 11, 1953	29	66	19	22	1.2	238	61	16	0.1	3.6	0.09	337	342	679	7.8
Alameda Plain - Niles Cone Area (Waters probably from the upper body, chloride exceeds 25 percent of anion equivalents)																			
3S/W-33G2			62.6	Aug. 5, 1953	32	104	75	142	0.6	544	133	180	0.8	63	0.34	998	568	1800	7.8
4S/W-19N1		259		Dec. 21, 1953	19	118	35	40	28	282	58	170	0.0	8.7	0.31	579	434	1060	7.6
4S/W-30N3		250		Dec. 9, 1953	23	285	83	70	4.6	314	89	650	0.0	11	0.35	1390	1120	3270	7.6
4S/W-31F1		240		Dec. 10, 1953	28	200	69	67	5.0	218	58	482	0.0	4.1	0.42	1020	782	1970	7.5
4S/W-24L2		240		Dec. 14, 1953		128	52	46	2.5	282		220			0.29		528	1350	8.0
5S/W-5K1		240		Dec. 14, 1953	25	58	17	106	4.4	266	39	137	0.0	2.1	0.24	518	210	917	7.6
Alameda Plain - Niles Cone Area (Waters probably from the lower body, chloride less than 25 percent of anion equivalents)																			
3S/W-31B3			64.4	Aug. 5, 1953	35	41	17	88	2.9	316	41	46	0.1	0.5	0.30	428	172	600	8.0
4S/W-20N2		500		Dec. 9, 1953	16	58	23	32	1.7	233	63	38	0.1	6.1	0.48	351	239	594	7.7
4S/W-30L3		518		Dec. 16, 1953	19	36	11	76	1.7	268	46	21	0.1	0.8	0.37	343	135	554	8.1
4S/W-32L1		500		Dec. 16, 1953	20	56	19	56	3.1	248	60	60			0.21	346	218	561	8.0
4S/W-35C1		519		Dec. 14, 1953	21	14	4.1	111	1.4	270	40	24	0.1	1.1	0.30	340	52	572	8.1
5S/W-6H2		300		Dec. 14, 1953	24	32	7.9	81	2.6	266	46	26	0.1	0.2	0.23	301	112	569	7.7
Livermore Valley																			
2S/W-22A1			64.4	Aug. 3, 1953	26	70	17	32	1.1	300	11	63	0.1	2.3	0.07	390	244	645	7.7
2S/W-35G1			77	Aug. 3, 1953	21	44	24	228	0.6	316	37	272	0.0	14	0.31	800	208	1000	7.9
3S/W-5M1			62	July 16, 1952	16	32	18	167	0.9	378	103	58	0.0	0.00	0.50	582	154	751	7.9
3S/W-13D2		400		July 16, 1952	27	49	25	34	1.2	237	48	34	0.0	1.2	0.49	325	226	554	7.6
3S/W-4H1			68.0	Aug. 4, 1953	30	41	44	42	2.0	304	36	46	0.1	22	0.27	418	284	683	7.7
3S/W-22E1		445		July 16, 1952	30	49	64	85	1.6	310	30	165	0.1	30	0.50	627	386	1120	8.6
4S/W-20K1			60.8	Aug. 4, 1953	28	72	21	87	0.4	320	121	45	0.3	0.8	0.17	533	266	899	7.6
Solano-Fairfield Area (Data furnished by Solano County Farm Advisory)																			
4N/W-5F1		70		Aug. 2, 1945		40	50	10		96	80	40			0.15		306	968	7.8
5N/W-8Q1		50		May 19, 1948		70	20	95		370	65	75			2.82		256	900	7.3
5N/W-14N2		65		July 18, 1945		25	25	278		385	35	300			8.13		166	1060	8.1
5N/W-17D2		72		Sept. 13, 1946		65	26	100		375	55	80			2.03		265	900	7.2
5N/W-19A2		175		June 30, 1946		55	30	40		330	30	30			1.32		280	830	7.5
5N/W-29A2		192		May 15, 1946		60	30	60		395	30	35			1.78		273	740	7.4
5N/W-33K3		75		Aug. 9, 1946		120	76	170		740	180	130			1.27		608	1720	7.8
Napa Valley																			
5N/W-14H3		240		Feb. 2, 1950								18					60	312	
5N/W-15C2		66		Feb. 13, 1951	32	64	50	68	4.0	82	71	268	0.2	1.2	0.4		365	1090	8.9
5N/W-6F1		120		Apr. 18, 1950		42	36	46	1.4	86	44	64	0.2	1.86	0		140	404	
4N/W-5C1		135		Mar. 9, 1951	40	62	18	138		278	17	230					253	741	8.8
5N/W-27H1		1228		Aug. 6, 1948	61	35	5	85		130	55	95			3.2		230	687	7.5
5N/W-9D1		165		Mar. 9, 1951		30	20	85		185	10	135					67	690	7.7
5N/W-28R1		17.5		Nov. 1949		30									5.36		363	800	7.0

Sonoma Valley

Well	Qal	Apr. 8, 1952	30	6.8	3.6	205	1.5	486	0.7	65	0	0.2	6.3	32	93	854	8.3
SN/W-31A1	Qal	June 10, 1952	16	6.0	7.3	245	.8	304	9.1	66			6.6			957	
SN/W-13K1	Qal	Sept. 20, 1951	74	3.7	4.7	134	9.0	300	8	15	.1	.3	4.4	158	30	368	7.3
SN/W-18B2	Qal	Sept. 19, 1951	15	15	10	90		d181	23	90	.3	.5	7.7	28	88	672	8.2
SN/W-16J2	Qal	Oct. 25, 1949c											7.7		70	550	8.6
4N/W-14D1	Qal	July 26, 1948f	78	10	10	107		310	45	140		.75		67	87	957	7.4
4N/W-14D2	Qal	Sept. 7, 1951f	52	12	18	175		278	92	120	2.5	0		104	70	880	7.0
4N/W-14L1	Qal	July 26, 1948f	68	25	19	222		327	44	220		.2		142	77	1283	7.4
SN/W-2A2	Qal	July (5)	70	9	1.0	285		60.7	2.9	392	7.0			94			
SN/W-2A5	Qal		269	5.0	2.0	195		128	17	150				95			

Petaluma Valley

Well	Qal	Apr. 1, 1952	24	24	9.2	16				13			0	58	25	485	7.9
SN/W-1Q1	Qal	May 26, 1947b	24	34	22	112		234	67	112	10.07	0.8		175	58	910	
SN/W-1Q1	Qal	Aug. 27, 1951c		10	5	600		d276	10	705		5				2700	8.5
SN/W-19H	Qal	Dec. 9, 1949c		60	10	30		185	10	55				190	34	470	7.8
SN/W-20B1	Qal	May 26, 1947b	10	12	5.8	101		188	22	58	1.09	16		53	81	533	8.7
SN/W-22Q2	Qal	Aug. 3, 1949b	56	40	19	32		251	13	20	1.10	0		178	38	448	7.7
SN/W-24F1	Qal	Oct. 15, 1950c		5	15	210		225	150	140			3.40	85	84	1100	
SN/W-28H2	Qal	May 25, 1949b	44	41	17	41		1222	23	32	.03	12		171	34	486	8.4

a Includes equivalent of 23 parts per million of carbonate (CO₂)
b Analyses by U. S. Geological Survey, Salt Lake City, Utah
c Analyses by U. of C. Division of Plant Nutrition at Berkeley, Calif.
d Includes equivalent of 20 parts per million of carbonate (CO₂)
e Analyses by Pacific Engineering Co., San Francisco, Calif.
f Analyses by Twelfth Naval District, San Francisco, Calif.
g Analyses by International Filter Co., Chicago, Ill., converted from hypothetical combinations in grains per gallon to ions in ppm.
h Analyses by California Water Service, San Jose, California
i Mangrove (Mn)
j Includes equivalent of 4 parts per million carbonate (CO₂)

Note: - The well-numbering system used by the Geological Survey shows the locations of wells according to the rectangular system for the subdivision of public land. For example, in the number 35/W-35G1 the numeral and letter preceding the bar indicate the township (T. 35.), the numeral and letter between the bar and the hyphen, the range (R. 3W.), the digit between the hyphen and the letter indicate the section (sec. 36); and the letter following the section number indicates the 40-acre subdivision of the section, as shown in the accompanying diagrams. Within each 40-acre tract the wells are numbered serially, as indicated by the final digit of the number. Thus, well 35/W-35G1 is the first well to be listed in the SW 1/4 sec. 35. All locations in the San Francisco Bay area are referred to the Mount Diablo base and meridian.

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

in the northern part of the valley and inland from the bay produce water of a sodium bicarbonate type. Except for the semiperched water body, the water is generally of good quality and suitable for domestic, industrial, and irrigation use. Dissolved solids in the water samples ranged from 260 to 619 ppm and averaged 373 ppm. Total hardness as calcium carbonate ranged from 69 to 378 ppm and averaged 211 ppm, and percent sodium ranged from 14 to 67 and averaged 36.

Surface Water

Guadalupe River

The Guadalupe River drains an area of 223 square miles. Altitudes range from sea level to 3,800 feet above sea level at Loma Prieta. The total area above the gaging stations on Guadalupe River at San Jose and Saratoga Creek at Saratoga is 160 square miles or 72 percent of the total area in the basin. Gaging stations are also operated on Alamitos Creek near Edenvale, Guadalupe Creek at Guadalupe, and Los Gatos Creek below Los Gatos. (See plate 2.)

Average annual precipitation in the Guadalupe River basin ranges from about 12 inches on the floor of the valley to about 50 inches on the Santa Cruz Mountains.

Discharge.—The average discharge of Guadalupe River at San Jose for the 23 years of record (1930–53) is 22.8 mgd (35.3 cfs). The maximum discharge was 8,680 cfs on Feb. 27, 1940, and the stream is usually dry for several months each year.

Quality

Samples of Los Gatos Creek water below Los Gatos were collected once a month during the period October 1952 to September 1953. The analyses are given in table 5. The water of this stream is of the calcium and magnesium bicarbonate type; having a moderate mineral content, and is quite hard. Plate 4 shows the variation of specific conductance, hardness, alkalinity, and chloride concentrations with streamflow. In general the relative proportion of the different ions in solution remains constant even though the total concentration varies greatly. Analyses of the sampled water containing maximum and minimum concentrations of dissolved solids are shown in figure 8.

Coyote Creek

Coyote Creek drains 404 square miles of which 229 square miles are upstream from the gaging station near Edenvale. Another gaging station is located near Madrone just downstream from Anderson Reservoir at the mouth of the canyon. (See plate 2.) The highest altitude in the basin is 3,600 feet on Pine Ridge northeast of Morgan Hill.

Discharge.—Streamflow records on Coyote Creek date from 1902 near Madrone and 1916 near Edenvale and are among the longest records in the San Francisco Bay Area. Maximum and average flows are not indicative of what can be expected under present conditions

owing to storage developed as recently as 1950. Regulation to promote percolation has produced periods of no flow at both gaging stations.

Quality.—Samples of Coyote Creek water near Madrone were collected once a month from October 1952 to September 1953. The analyses are given in table 5. The water is a calcium and magnesium bicarbonate type; having a low mineral content and is moderately hard.

Reservoir storage has an appreciable effect on water quality. Storm waters entering the reservoirs dilute the more concentrated waters which had entered during periods of low flow. The released water has a more uniform quality than water of uncontrolled streams. For example, Coyote Creek water below the reservoirs has a more uniform quality than many surface waters (fig. 8).

Other streams

Discharge records have been collected on Stevens Creek since 1930 and on Matadero Creek since 1952. Some discharge data for these streams are given in table 4. Stevens Creek Reservoir (capacity, 4,000 acre-feet) is operated by the Santa Clara Valley Water Conservation District, and has impounded storm waters since 1936. The stored water is released at controlled rates during the summer to replenish the ground-water supplies by percolation into the gravels underlying the stream.

Artificial Recharge

Artificial recharge is practiced by the Santa Clara Water Conservation District. The stored water is released to canals that carry the water to permeable stream channels and to percolation ponds on the valley floor, to infiltrate and become part of the ground-water body.

Coyote Reservoir (capacity, 24,560 acre-feet) was completed in 1936, and Anderson Reservoir (capacity, 75,000 acre-feet) was completed in 1950, both by the Santa Clara Valley Water Conservation District. The storm waters stored in these reservoirs are released at controlled rates to replenish the ground-water supplies mainly by percolation and spreading near the town of Coyote.

The Santa Clara Valley Water Conservation District operates several detention reservoirs in the Guadalupe basin to store storm waters which are released at controlled rates to replenish the ground-water supplies by percolation into the gravels underlying the streams. These reservoirs, all of which are upstream from the gaging stations, are as follows:

Reservoir	Creek	Capacity (acre- feet)	Date storage began
Almaden.....	Alamitos.....	2,500	1936
Calero.....	Arroyo Calero....	9,213	1935
Guadalupe.....	Guadalupe.....	3,500	1936
Lexington.....	Los Gatos.....	25,000	1952

The total inflow to the Santa Clara Valley averages about 204,000 acre-feet annually. A much higher percentage of the total inflow percolates underground during a dry year than during a wet year. The winter of 1940-41 was one of the wettest seasons on record. The total runoff was 436,600 acre-feet. Of this amount 145,600 acre-feet percolated underground; 107,300 acre-feet by natural percolation and 38,300 acre-feet by induced percolation from conservation works. During the season of 1944-45, a period of slightly less than normal rainfall, the total runoff was 132,000 acre-feet. Natural percolation amounted to 35,300 acre-feet and induced percolation was 39,700 acre-feet, for a total percolation of 75,000 acre-feet.

Alameda County

The principal areas of water development and use in Alameda County are in Livermore Valley and the alluvial plain area along the east side of San Francisco Bay. The major streams in the county are Alameda, San Lorenzo, and San Leandro Creeks.

Ground Water

Livermore Valley

Livermore Valley is 30 miles southeast of Oakland, roughly midway between San Francisco Bay on the west and the San Joaquin Valley on the east. The Livermore Valley has a maximum length of 13 miles in an east-west direction and is 3 to 5 miles wide with an area of about 60 square miles. The valley forms a broad plain sloping uniformly from an altitude of 600 feet on the east to an altitude of 350 on the west near Pleasanton.

The syncline that forms Livermore Valley is developed in the Livermore gravel of Clark (1930) of Pliocene age. (See fig. 10.) This formation constitutes the aquifer of secondary importance in this area and is composed principally of sand, gravel, and clay, and contains some tuff near the base. The maximum thickness of the Livermore gravel is about 4,000 feet.

The floor of the Livermore Valley is covered by alluvial, lake, and swamp deposits of late Pleistocene and Recent age. (See pl. 1.) These deposits consist of gravel, sand, silt, and clay and constitute the primary aquifer of Livermore Valley. The thickness of alluvium averages about 350 feet, although a maximum thickness of nearly 700 feet is believed to be present in the Pleasanton area.

The water supply of Livermore Valley is derived entirely from precipitation on the valley floor and from surface and subsurface inflow from the tributary drainage basin. The three main streams that traverse Livermore Valley are Arroyo Del Valle, Arroyo Mocho, and Arroyo las Positas. Outflow from the valley is concentrated in the Arroyo del Laguna which discharges into Alameda Creek in the vicinity of Sunol.

Deficient streamflow during the summer and autumn precludes diversion of adequate surface supplies, consequently nearly all water used in Livermore Valley is derived from ground water.

Livermore Valley contains two general hydrologic areas: an area of free ground water, and an area of

confined ground water. The confined conditions are formed in the vicinity of Pleasanton by at least four beds of blue clay interbedded with gravel.

Yield and depth of wells.—Most wells in Livermore Valley obtain water from the alluvium, and the average yield of irrigation wells in the Pleasanton area, where the greatest pumping occurs, is about 500 gpm. A few wells produce 1,000 gpm. The Pleasanton well field consists of 25 wells which range in depth from 300 to 500 feet.

Water-level fluctuations.—Hydrographs of wells 3S/1E-10Q1 and 3S/1E-10Q2 (fig. 5) are representative of wells pumping from the unconfined water body in Livermore Valley. The hydrograph for well 3S/1E-20L1 shows the fluctuation for wells tapping the deeper confined water body. This well is used for municipal supply and is about 500 feet deep. The depth to water ranges from about 35 to 100 feet below land surface. The drawdown in the Pleasanton area was accelerated from February 1948 to April 1949, by the pumping and export of 13,600 acre-feet of water by the San Francisco Water Department. Although the pumpage by San Francisco Water Department has been nominal since the summer of 1949, increased pumpage for irrigation during a period of low rainfall resulted in lowering of water levels to a record low in the fall of 1950. The following tabulation shows average depth to water in subareas of the Livermore Valley during the fall of 1948, 1949, 1950:

Subareas within Livermore Valley	1948	1949	1950
Pleasanton.....	.....	.....	94.0
Elliott.....	80.6	88.6	96.0
Livermore.....	70.6	76.3	78.5
Dublin.....	35.0	39.4	42.5

Pumpage.—Water use in the valley is predominately agricultural, and the increase in recent years has been due primarily to the transition from dry farming to irrigation. An estimated 80 percent of the total use is for production of irrigated crops. The remaining 20 percent is used by native vegetation and miscellaneous culture, and by domestic and municipal developments.

An appreciable quantity of water has been exported from the valley for municipal use. The San Francisco Water Department, as successor to Spring Valley Water Company, pumps from a well field in the Pleasanton area at the lower end of Livermore Valley and exports the water for municipal use. From 1897, when the well field was established, until 1934, the Pleasanton well field was an important source of water supply to San Francisco. However, since the completion of the Hetch Hetchy aqueduct in 1934, the Pleasanton well field has been used only as a standby source. For the 28 years, 1918-45 the city of San Francisco pumped an average of 4,900 acre-feet annually. The largest pumpage during this time was 14,500 acre-feet in 1924.

For the 18-year period, 1915-33, the average annual pumpage in Livermore Valley was about 11,300 acre-feet (Smith, 1934). The total ground-water pumpage during water years 1949 and 1950 as estimated by the California Division of Water Resources is given in the tabulation on the following page.

WATER RESOURCES OF THE SAN FRANCISCO BAY AREA

Use	Pumpage in acre-feet	
	1949	1950
Agriculture.....	18,900	22,200
Urban and suburban.....	6,200	6,200
Export city of San Francisco...	6,200	0
Total.....	31,300	28,400

According to estimates of the California Division of Water Resources, Livermore Valley has a mean annual recharge of about 14,400 acre-feet. Net draft (gross pumpage minus that portion returned to the ground-water body) of ground water in 1949 was 18,500 acre-feet. The difference between these two figures, 4,100 acre-feet, was the overdraft at that time.

Quality.—Chemical quality data for ground water in the Livermore Valley are rather extensive, but ground water in the smaller valleys of San Ramon, Amador, and Sunol has not been as thoroughly sampled. Selected analyses of the ground water are presented in table 6. These analyses show the ground water of Livermore Valley and the smaller associated valleys to be of good quality except for hardness and are suitable for most domestic and irrigation use. In the eastern part of the Livermore Valley, waters are generally of poorer quality. Most of the water in these valleys is a calcium bicarbonate type. For most of the water sampled in the Livermore Valley the dissolved solids ranged from 300 to 700 ppm with an average of 466 ppm. Total hardness as calcium carbonate ranged from 88 to 431 ppm with an average of 267 ppm, and the percent sodium ranged from 12 to 81 with an average of 35.

Several wells along the southern edge of the Livermore Valley east of Pleasanton produced water of a sodium bicarbonate type, and some wells northeast of Livermore produced water high in sodium and chloride. Several waters had above normal nitrate concentrations and many waters east of Livermore had boron concentrations in excess of 1.0 ppm.

Sunol and Castro Valleys

Sunol and Castro Valleys are two small intermontane basins in Alameda County. Surface drainage from Livermore Valley passes through the northern end of Sunol Valley on its way to San Francisco Bay.

Water-bearing formations in Sunol Valley are the same as in Livermore Valley, being late Quaternary alluvium underlain by the Livermore gravel of Clark (1930). Only one irrigation well was in use in Sunol Valley in 1950. This well yielded 200 to 250 gpm.

The floor of Castro Valley is underlain by alluvium to a maximum depth of about 80 feet. The valley is mainly residential, and only a few domestic wells draw water from the alluvial sediments.

Alameda Plain

An alluvial plain extends along the east side of San Francisco Bay from San Pablo Bay on the north to

Santa Clara Valley on the south. In this report the southern part of this plain, from San Leandro Creek on the north to the Santa Clara County line on the south, is called the Alameda Plain. It is bounded on the east by the foothills of the Diablo Range and on the west by the tideland of San Francisco Bay, is about 25 miles long, and lies entirely within Alameda County.

The part of the alluvial plain north of the Alameda Plain is almost completely urbanized. Imported water is supplied by the East Bay Municipal Utility District and ground-water use in the area is a small part of the total use.

The late Quaternary alluvium composes the aquifer of primary importance; it consists of clay, silt, sand and gravel.

The Santa Clara formation is the aquifer of secondary importance in this plain area. It consists of medium to fine gravel commonly occurring in lenticular beds and sand and silt. This formation crops out along the foothills, and underlies the alluvium of the plain. (See pl. 1.)

The Alameda plain is composed of coalescing alluvial fans; the chief ones, from north to south, are the San Leandro and San Lorenzo fans and the Niles cone. At least two separate water bodies can be differentiated in most parts of the alluvial plain. The permeable sediments that contain the water bodies are separated by clay and silt of low permeability. In the San Leandro fan the upper 200 feet of sediments contain the upper water body, and all deeper sediments contain the lower water body. Most of the pumping here is from the upper water body, which is replenished principally by percolation of San Leandro Creek on the apex of the fan.

In the San Lorenzo fan, most irrigation, municipal, and industrial wells derive their water from the lower water body. Water in this body appears to be replenished, at least in part, by movement from the lower water bodies in the adjacent San Leandro fan and Niles cone.

In the Niles cone area, two principal water bodies have been differentiated, the base of the upper water body about 100 to 120 feet below ground surface, and the lower water body which extends from about 200 feet below surface to the base of the water-bearing sediments. An area of unconfined ground water near Niles is the source of their replenishment.

Water-level fluctuations.—The hydrographs of wells 4S/2W-26G1 and 4S/2W-4D2 (fig. 5) are considered representative of wells on the Alameda plain. Well 4S/2W-4D2, a municipal supply well for the city of Hayward, is 575 feet deep and draws from the lower water body. The altitude of the well is 13 feet. In 1939 the yield was 770 gpm. Well 4S/2W-26G1 is an irrigation well of unknown depth, but probably taps a shallower water body than does well 4S/2W-4D2.

Pumpage.—The annual gross pumpage during water year 1949 was 46,700 acre-feet. According to estimates of the California Division of Water Resources, the mean annual replenishment is about 30,000 acre-feet, therefore, with an overdraft of 16,700 acre-feet, this basin is susceptible to salt water encroachment. Salt water from San Francisco Bay began to seriously contaminate the upper water body of the Alameda plain about 1920.

By 1947 the landward movement of saline water reached the eastern edge of the clay that separates the upper water body from the lower water body. At that time salt water began to spill downward over the edge into the lower water body. By 1950, an area of about 800 acres in the lower aquifer was substantially contaminated by salt water.

Quality.—The chemical quality data for the Alameda plain are mainly from the Niles cone area. The analyses of the sampled water show that the chloride percentage can be used as an approximate index of the salt-water contamination.

Waters of poorer quality generally have a chloride content greater than 25 percent of the anion equivalents and come from the upper water body or the contaminated parts of the lower water body. (See table 6.) In this class, dissolved solids range from 456 to 2,360 ppm with an average of 941 ppm. Hardness as calcium carbonate ranges from 138 to 1,670 ppm with an average of 667 ppm, and percent sodium ranges from 11 to 66 with an average of 24. The chloride content ranges from 76 to 1,300 ppm with an average of 383 ppm.

Waters of good quality generally have a chloride content less than 25 percent of the anion equivalents and come from the uncontaminated parts of the lower water body. (See table 6.) They are of moderate mineral content, and normally have less hardness than waters from the upper water body. Some do have high percentages of sodium which may make them unsuitable for irrigation. Dissolved solids range from 331 to 807 ppm with an average of 425 ppm. Total hardness ranges from 22 to 449 ppm with an average of 225 ppm, and the percent sodium ranges from 18 to 93 with an average of 40. The chloride concentration ranges from 10 to 85 ppm with an average of 39 ppm.

Surface Water

Alameda Creek

Alameda Creek drains about 700 square miles with altitudes ranging from sea level to almost 4,400 feet at Mt. Copernicus, just east of Mt. Hamilton. The drainage area above the gaging station near Niles is 633 square miles or 90 percent of the total area.

The average annual precipitation in the Alameda Creek basin ranges from about 12 to 15 inches in the Livermore Valley and from about 14 inches near the bay to about 28 inches in the vicinity of Mt. Hamilton.

Discharge.—Records of streamflow have been obtained on Alameda Creek near Niles since 1916 and at other nearby points since 1891. (See figure 7.) In 1925, Calaveras Reservoir (usable capacity, 69,900 acre-feet) was completed and water was stored for diversion to the city of San Francisco as part of the water supply system.

The average discharge of Alameda Creek near Niles for the water years 1925–53 is 54.5 mgd (84.4 cfs). No flow occurred for periods of a month or longer in 15 of the 29 years and for shorter periods in 3 other years. The maximum discharge was 18,500 cfs on Jan. 12, 1952. The monthly and annual maximum, minimum, average, and median discharges are given in table 7.

Table 7.—Maximum, minimum, average, median, monthly, and annual discharge of Alameda Creek near Niles, in mgd, water years 1925–53

Month	Maximum	Minimum	Median	Average
October.....	23.6	0	.1	2.02
November.....	350	0	1.2	15.8
December.....	508	0	5.4	50.0
January.....	1,602	.14	23	116
February.....	1,571	.46	97	224
March.....	930	.11	32	151
April.....	700	.70	19	75.0
May.....	61.7	.07	7.8	13.7
June.....	29.8	0	2.5	6.33
July.....	32.4	0	.9	4.29
August.....	30.7	0	.2	2.57
September.....	31.6	0	.06	2.46
Annual	255	.80	26	54.4

The flow characteristics of Alameda Creek under present conditions of development, storage in Calaveras Reservoir, ground-water diversions in Livermore Valley and at Sunol filter galleries, and diversions from upper Alameda Creek, are shown by the flow-duration curves, figure 11, and the draft-storage curve, figure 12. The flow-duration curve shows the percentage of time that a specified daily discharge in million gallons per day or cubic feet per second has been equaled or exceeded. The draft-storage curve shows the net storage, required to maintain specific outflow rates at the gaging station. Evaporation losses and dead storage must be added to the values shown on the curve to obtain the storage required.

Figure 13 shows a flood frequency curve for Alameda Creek near Niles for the period 1926–53, the period since completion of Calaveras Reservoir. This curve shows the recurrence interval, under present conditions, for all floods over 800 cfs. Extension beyond the period of record cannot be made with any degree of certainty; therefore the available records give little indication of the maximum floods possible at the gaging station.

Quality.—Water in Alameda Creek near Niles is a calcium and magnesium bicarbonate type. The water also has a high mineral content during most of the year and is excessively hard. Analyses of samples collected once a month during the period October 1952 to September 1953 are given in table 5. Plate 4 shows the variation of some of the major constituents with streamflow. Analyses of sampled water containing maximum and minimum concentrations of dissolved solids are shown in figure 8. These values have been obtained from analyses of samples for the period January 1952 to September 1953, and several samples collected prior to this period.

Selected analyses of water from streams tributary to Alameda Creek are also given in table 5. The streams that drain the southern part of the basin are characterized by high magnesium concentrations while the streams that drain the northern part are characterized by high sodium and high chloride concentrations. Usually the flow from these tributaries is not sufficient to influence the quality of Alameda Creek to any great extent, but occasionally during periods of low flow their effect can be noticed.

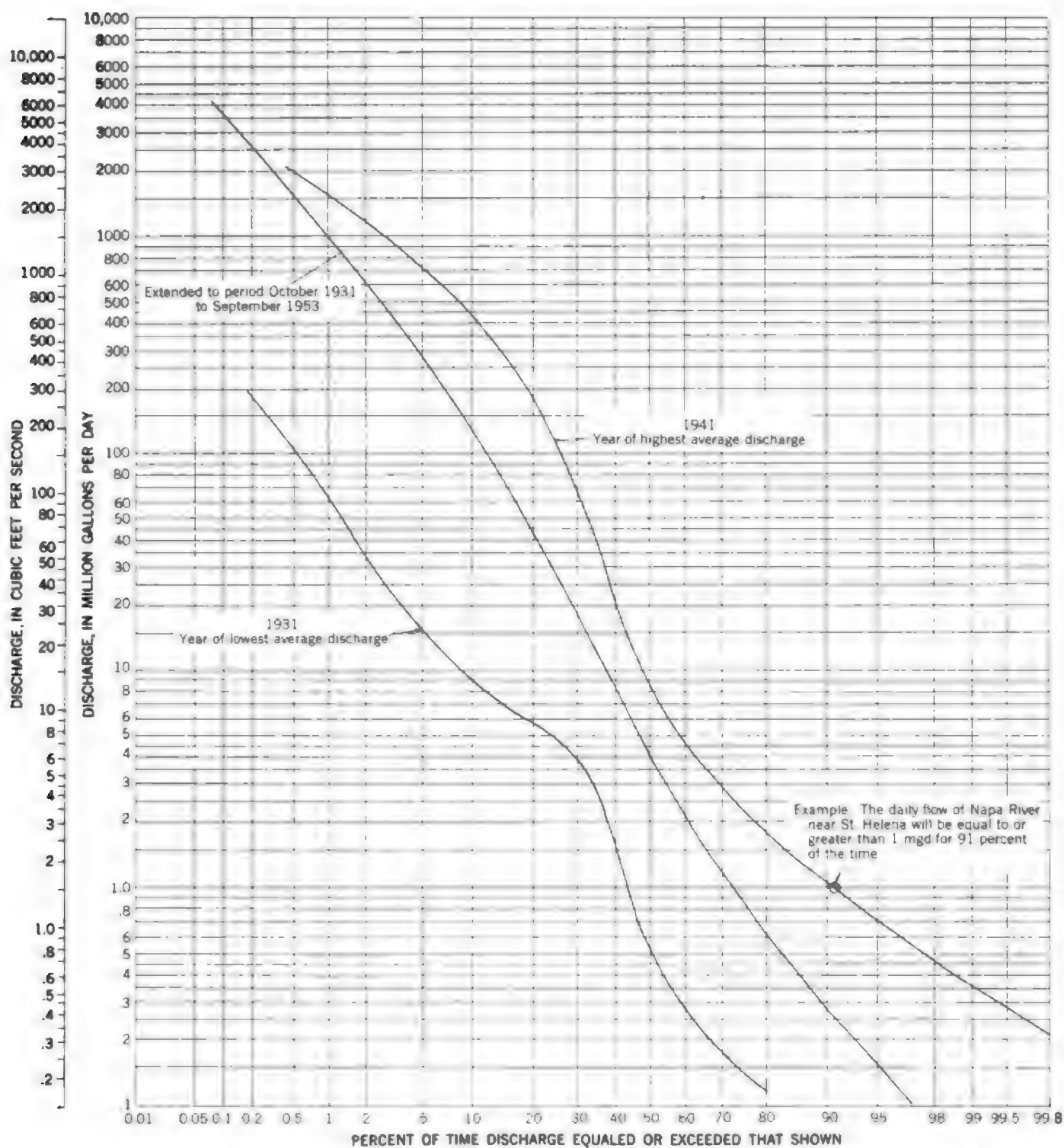


Figure 14.—Duration curves of daily flow, Napa River near St. Helena.

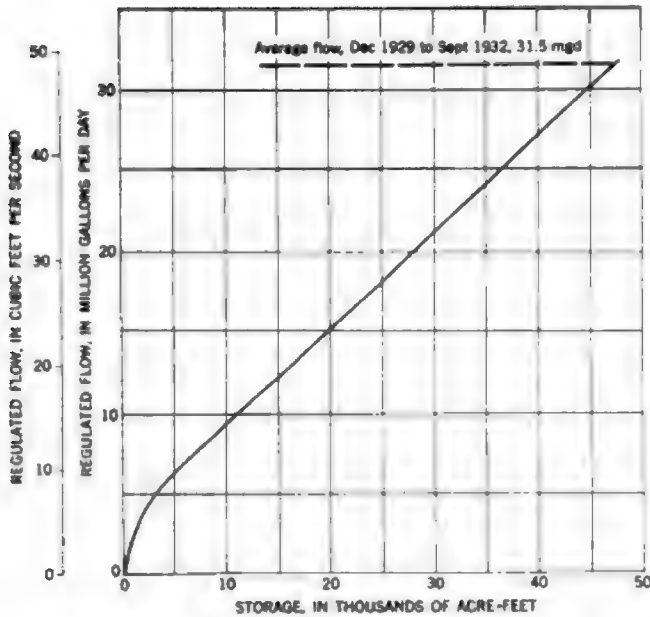


Figure 15.—Draft-storage curve, Napa River near St. Helena.

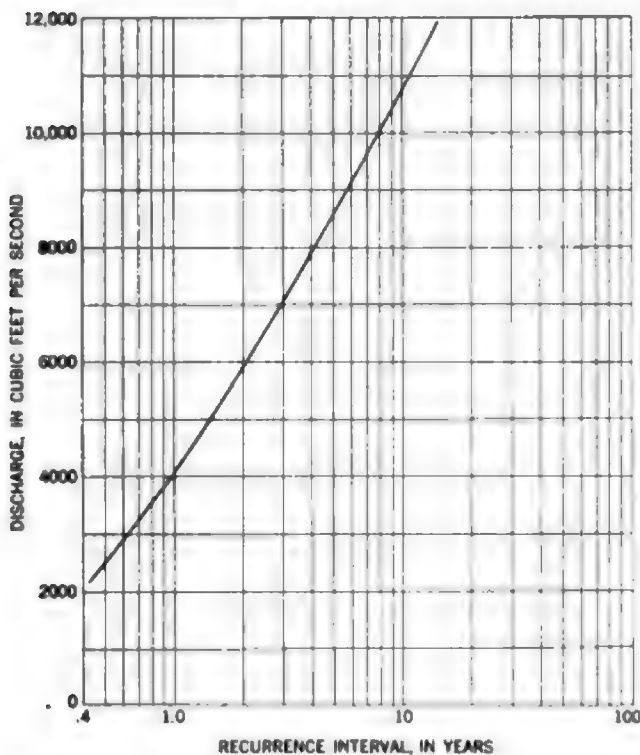


Figure 16.—Frequency of floods, Napa River near St. Helena, 1930-32, 1940-53.

Ground Water

The water-bearing formations of Sonoma Valley are essentially the same as those of Napa Valley. The primary aquifer consists of unconsolidated alluvial deposits of late Pleistocene and Recent age. The secondary aquifer consists of the Sonoma volcanics of Pliocene age, and the Huichica and Glen Ellen formations, parts of which are essentially non-water-bearing and parts of which yield small to moderate quantities of water. Water in the primary aquifer is essentially unconfined;

water in the older formations is generally confined or partially confined.

Water-level fluctuations

The water levels in the unconfined aquifers generally range from 5 to 25 feet below land surface. The average depth to water is about 15 feet; the greatest about 45 feet. The depth to the water in the confined aquifers is generally somewhat less. The seasonal fluctuations of water levels for both primary and secondary aquifers is about 20 feet. Figure 6 shows the hydrograph for well 5N/SW-28N1 in Sonoma Valley. This well is 11 feet above sea level and 130 feet deep.

The period of record of water levels in Sonoma Valley is not long enough to observe significant changes. However, during the summer static water levels on the alluvial plain near the salt marshes are below sea level. During summer pumping, the chloride content of the water indicates saline-water encroachment. Information at hand seems to indicate the salt water is diluted by recharge from winter rains. Continued development of this area, if it involves lowering water levels below sea level and holding them there more than a season or two, may lead to serious saline-water encroachment.

Yield and depth of wells

The wells in the unconfined primary aquifer are generally less than 200 feet deep, with yields ranging widely from just a few gallons per minute to more than 400 gpm. The wells in the secondary aquifer are generally deeper with essentially the same wide range in yields, but with lower average yields.

Pumpage

The ground-water pumpage prior to 1945 is estimated at less than 800 acre-feet annually, divided about equally between irrigation and domestic uses. The following tabulation shows the annual pumpage in acre-feet in the Sonoma Valley for the 5 years 1946-50 with years ending March 31:

Year	Pumpage in acre-feet per year		
	Large wells ^a	Domestic wells ^a	Total
1946.....	490	300	790
1947.....	910	400	1,310
1948.....	970	400	1,370
1949.....	1,300	500	1,800
1950.....	1,900	500	2,400

^aUse from domestic wells was estimated and large wells are those pumped by a 5-horsepower or larger motor.

Quality

Selected analyses of the ground water in Sonoma Valley are listed in table 6. Many wells produce water from several strata which contain water of different quality. The analyses selected show the quality from a single source whenever possible.

The water of the unconfined younger and older alluvium is a calcium bicarbonate water of moderate mineral content. Occasionally high boron concentrations are encountered which makes the water unsuitable for irrigation. In the southern part of the valley where water levels fall below sea level, brackish waters are encountered; some lenses of fresh water are found, but yields are small. This area of saline contamination is not constant, but increases and decreases according to the balance between the amount of recharge from surface precipitation and the amount of pumping draft. During the rainy months recharge is heavy and the saline water moves south. Under heavy pumping during the irrigation season, this saline water moves north and again contaminates the ground water.

Water from the Huichica and Glen Ellen formations is generally of suitable quality. High chlorides are encountered locally in the Huichica formation; the Glen Ellen formation may locally produce water of high boron content. High boron concentration in water from some wells tapping the alluvium is thought to originate in the Glen Ellen formation.

Water from the Sonoma volcanics is generally of good quality but locally high chloride concentrations are encountered. This may be due to unflushed connate waters in the formation.

Surface Water

Sonoma Creek drains into San Pablo Bay. The State of California maintains two off-stream reservoirs with a combined capacity of 550 acre-feet to supply water to a State institution. Average precipitation ranges from 20 to 40 inches between the mouth and the headwaters of Sonoma Creek, for which streamflow records have not been collected.

Petaluma Valley

Petaluma Valley, in Sonoma and Marin Counties northwest of San Pablo Bay, is an alluvial-filled valley, about 16 miles long and 2 to 3 miles wide. It is in a northwest-trending structural depression bordered on the east and west by mountains higher than 2,000 feet. To the north, Petaluma Valley is separated from Santa Rosa Valley by a low divide. The greater part of the 25 square miles of lower Petaluma Valley is at or slightly below sea level. Much of this land has been reclaimed by drainage ditches and levees.

Small Novato Valley adjoins Petaluma Valley on the south and borders San Pablo Bay. Novato Valley and the bayward extension of its coastal plain has a total length of about 10 miles and a width of less than 2 miles. Only the upstream part, about 4 square miles, has been developed for agriculture and urban use. The rest of the area is unreclaimed tidal marshland.

Ground Water

The primary aquifer is composed of unconsolidated alluvium of Quaternary age. The secondary aquifer consists of the Tolay volcanics of Morse and Bailey (1935), the Sonoma volcanics, and the Petaluma formation, all of Pliocene age, and the Merced formation of

Pliocene and Pleistocene(?) age. It is water yielding in part and is important in some areas, but does not form an appreciable portion of the ground-water reservoir.

Yield and depth of wells

In the southern part of Petaluma Valley the depth of wells ranges widely from about 15 feet to more than 500 feet, and most of the wells are between 100 to 200 feet deep. The yield of these wells is generally less than 30 gpm. In the northern part of Petaluma Valley the depth of domestic wells in the primary aquifer range from about 60 to 150 feet; wells in the secondary aquifer are generally deeper. The wells with higher yields, 150 to 300 gpm, range from about 250 to 600 feet and tap both aquifers. The highest yield reported is about 650 gpm. In Novato Valley the depth of most of the wells ranges from about 30 to 60 feet; the yield is about 25 to 40 gpm.

Water-level fluctuations

In the area of greatest pumpage in northern Petaluma Valley, water levels in the spring are mostly between 10 and 25 feet below land surface; autumn water levels are between about 15 and 40 feet below land surface.

The hydrograph for well 5N/7W-35K1 in Petaluma Valley is shown on figure 6. This is an irrigation well 78 feet deep. The altitude is 19 feet.

Under present conditions in Petaluma Valley, there seems to be no substantial excess of withdrawals over replenishment. However, it should be noted that in most of the area north and east of Petaluma where most of the draft in Petaluma Valley is concentrated, water levels in the spring of 1951 were from 5 to 20 feet above sea level; and throughout the valley most summer pumping levels were below sea level. Probably saline water from the bay and sloughs would intrude the aquifers if water levels were held at substantially lower levels for a few years.

Pumpage

Most of the ground-water draft is in the northern part of the valley. Irrigation has developed largely since 1900. Ten irrigation wells were in use in 1949 and 14 in 1952. The following tabulation shows ground-water pumpage in acre-feet in Petaluma Valley during the period 1945 to 1949.

Use	1945	1946	1947	1948	1949
Public supply for Petaluma and Penngrove.	420	500	720	550	760
Irrigation.....	140	130	110	210	250
Dairy farms.....	80	130	140	130	120
Domestic, stock and other.	620	650	680	700	720
Yearly total.....	1,260	1,410	1,650	1,700	1,850

In Novato Valley the total annual ground-water pumpage is probably less than 400 acre-feet.

Quality

Sufficient chemical quality data are not available to completely define the quality of the ground water in the several water-bearing zones in the Petaluma Valley. Although the analyses listed in table 6 are considered to be representative of the water from the various formations, they should be used with reservations when attempting to evaluate the over-all quality of the specific source. Many wells produce water from more than a single aquifer and variations in artesian head can cause the water from different water-bearing zones to intermix.

The water from the younger and older alluvium and the Merced formation is generally of good quality. It is of the calcium bicarbonate type tending toward a sodium bicarbonate type with increasing depth. Total mineral concentration generally ranges from 250 to 500 ppm. Locally some wells produce water of poor quality. Salt water contamination is found in the southern part of the valley where saline bay waters intrude the aquifers of the tidal marshlands. In some areas the contamination may be caused by unflushed connate waters of ancient seas.

The water from the Petaluma formation is usually of poorer quality than water from the alluvium and the Merced formation. It is generally a sodium chloride type water of high mineral content. Some wells produce waters high in boron which makes them unsuitable for irrigation purposes. In general, waters with high sodium and chloride content and high total concentration are unsuitable for irrigation though such waters have been used with success under unusually favorable conditions of crop growth.

Surface Water

Petaluma Creek

The drainage area above the gaging station near Petaluma is 29.6 square miles, and elevations range from sea level to about 2,300 feet.

The average annual precipitation in the Petaluma Creek basin varies from about 20 inches on the tidal flats to about 25 inches on the hills. Annual runoff averaged about 9 inches for the period 1948-53.

Discharge.—The average discharge of Petaluma Creek near Petaluma for water years 1949-53 is 12.8 mgd (19.8 cfs). During this period the maximum flow was 1,360 cfs on Dec. 3, 1950, and periods of no flow have occurred for several months each year. The monthly and annual maximum, average, and minimum discharges are shown in table 12.

Flow characteristics of Petaluma Creek are shown by the flow-duration curve (fig. 17.)

Quality.—A single analysis of Petaluma Creek water, table 5, shows it to be of the calcium and magnesium bicarbonate type of moderate mineral content and hardness.

Table 12.—Maximum, minimum, and average monthly and annual discharge of Petaluma Creek near Petaluma, in mgd, water years 1949-53

Month	Maximum	Minimum	Average
October.....	0.03	0	0.006
November.....	20.3	0	4.26
December.....	80.8	.04	39.9
January.....	131	.61	58.7
February.....	46.3	1.82	25.7
March.....	47.8	2.71	22.4
April.....	7.37	.45	2.33
May.....	.58	.11	.26
June.....	.15	0	.04
July.....	0	0	0
August.....	0	0	0
September.....	0	0	0
Annual.....	21.3	4.61	12.8

Novato Creek

Novato Creek above the gaging station near Novato drains an area of 17.2 square miles, almost the entire basin. Altitudes in the drainage basin range from sea level to about 1,600 feet.

The average annual precipitation in the Novato Creek basin ranges from about 20 inches at the mouth of Novato Creek to about 35 inches on the higher hills south of the creek. Annual runoff has averaged about 9 inches for the period 1946-53.

Discharge.—The average discharge of Novato Creek near Novato for the 7 water years, 1947-53, is 6.85 mgd (10.6 cfs). In 1951, the North Marin Municipal Water District built Novato Creek Reservoir (capacity, 1,700 acre-feet). The estimated safe yield of this development is about 900 acre-feet per year. The maximum discharge was 1,130 cfs, Dec. 3, 1950, and the stream is dry for several months each year. The monthly and annual maximum, average, and minimum discharges are shown in table 13.

Table 13.—Maximum, minimum, and average monthly and annual discharge of Novato Creek near Novato, in mgd, water years 1947-53

Month	Maximum	Minimum	Average
October.....	0	0	0
November.....	8.72	0	1.26
December.....	55.6	0	15.7
January.....	76.9	.17	27.2
February.....	36.8	.23	16.4
March.....	57.8	2.46	17.3
April.....	6.31	1.31	3.19
May.....	1.57	.48	.78
June.....	.35	0	.17
July.....	.12	0	.03
August.....	0	0	0
September.....	0	0	0
Annual.....	12.6	.92	6.85

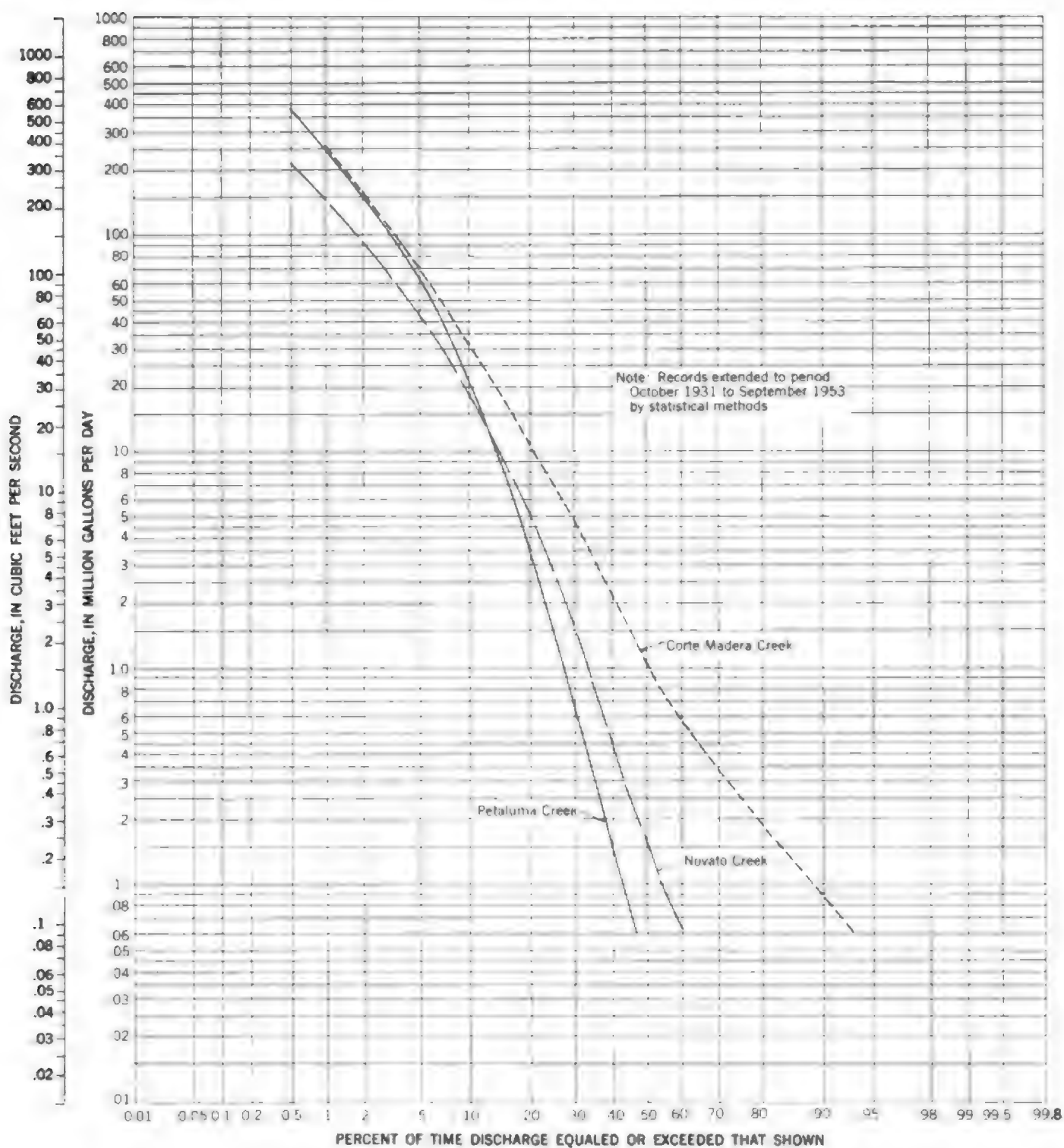


Figure 17.—Duration curves of daily flow, Petaluma, Novato, and Corte Madera Creeks.

The flow characteristics of Novato Creek are shown by the flow-duration curve, figure 17.

Quality.—The water of Novato Creek is a calcium and magnesium bicarbonate type of low mineral content and of fairly good quality. (See table 5.)

Southern Marin County

Two streams, Corte Madera Creek and Arroyo Nicasio in southern Marin County, have been gaged. The rocks of southern Marin County are essentially non-water bearing and only minor amounts of ground water are pumped.

Surface Water

Corte Madera Creek

The drainage area of Corte Madera Creek above the gaging station at Ross, which is just above tide water, is 18.3 square miles. Altitudes range from sea level to 2,600 feet.

Corte Madera Creek has been gaged only since February 1951. The average discharge for the water year 1952 was 31.1 mgd (48.1 cfs) and that for 1953 was 18.3 mgd (26.3 cfs). The maximum discharge was 3,300 cfs on Dec. 3, 1951, and a minimum flow of 0.06 mgd (0.1 cfs) has been reached at times from August to November.

Flow characteristics of Corte Madera Creek are shown by the flow-duration curve (fig. 17).

The Marin Municipal Water District operates Phoenix Lake (total capacity, 612 acre-feet) on Phoenix Gulch, a tributary of Corte Madera Creek, as part of the municipal supply for the urban areas.

Arroyo Nicasio

Arroyo Nicasio above the gaging station near Pt. Reyes Station drains an area of 36.2 square miles which for all practical purposes is the total drainage area of the basin. Altitudes range from about 50 feet at the mouth to about 1,850 feet near the headwaters. The average annual precipitation in the Arroyo Nicasio basin is about 30 to 35 inches.

The gaging station near the mouth of Arroyo Nicasio has been in operation only since July 1953. The record from July 25 to Sept. 30, 1953, shows 55 days with a flow of 0.06 mgd (0.1 cfs) and 13 days with no flow, 8 of which were consecutive.

IMPORTED WATER

Four major systems have been constructed to import water to the San Francisco Bay Area. These are the Hetch Hetchy system of the city of San Francisco, the Mokelumne system of the East Bay Municipal Utility District, the Contra Costa Canal in northern Contra Costa County, and the Cache Slough system of the city of Vallejo. These systems and the areas which they

serve are shown in plate 5. At present the San Francisco Bay Area itself is an area of deficient water supply; so any increase in the demand for water must be met by importations from sources outside the area. Figure 18 shows the importations of water to the San Francisco Bay Area for each of the four major systems.

Hetch Hetchy System

In 1913, after 12 years of litigation, the city of San Francisco was granted authorization under the terms of the "Raker Act" to construct and operate the Hetch Hetchy system. This authorization was required because the major reservoirs are in Yosemite National Park on the Tuolumne River and its tributaries.

Storage in Lake Eleanor (usable capacity, 26,100 acre-feet) began in 1915. O'Shaughnessy Dam, which forms the Hetch Hetchy Reservoir, was completed in 1923. It was raised 85.5 feet in 1937 and had drum gates installed on the spillway in 1949 making its present usable capacity, 360,400 acre-feet. Hetch Hetchy water first reached the San Francisco area in 1934. The Cherry Valley Reservoir, under construction in 1954, will be capable of storing 268,000 acre-feet, part of which will be available for importation to San Francisco. The capacity of the Hetch Hetchy system at present is about 160 mgd or 180,000 acre-feet per year; however, the capacity can be increased to about 400 mgd or 450,000 acre-feet per year by construction of additional storage facilities, pipe lines, and a second Coast Range tunnel. The water is brought by gravity to Crystal Springs Reservoir in San Mateo County by means of the Hetch Hetchy Aqueduct and Bay Crossing lines.

The Hetch Hetchy system supplies soft mountain water, very low in dissolved solids which consist principally of calcium and magnesium bicarbonate. Four analyses made during a 4-year period beginning

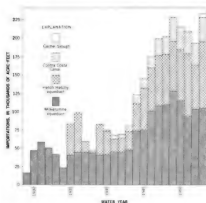


Figure 18.—Water importation, water years 1929–53.

July 1, 1949, indicate dissolved solids vary from 27 to 36 ppm, and hardness varies from 10 to 22 ppm (table 16).

Mokelumne System

The East Bay Municipal Utility District was formed in 1923, construction of the Mokelumne system started in 1925, and water was first delivered to the District's distribution system in June 1929. Pardee Reservoir (usable capacity 194,100 acre-feet) on the Mokelumne River near Jackson, is the source of the system's water supply. Parallel aqueducts 93 miles long and two pumping plants convey the water to the District's distribution system. The present capacity of the system is 156 mgd or about 175,000 acre-feet per year. Planned enlargement of the pumping plants will increase the capacity to about 200 mgd or 224,000 acre-feet per year.

The Mokelumne River supply is soft mountain water, low in dissolved solids and individual constituents (chlorides, and sulfates). Hardness is generally about 20 ppm and varies little with time (tables 19 and 20).

Contra Costa Canal

Another major import to the San Francisco Bay Area comes from the Contra Costa Canal which was built by the United States Bureau of Reclamation as a part of the Central Valley Project. The canal, which was completed in 1940, diverts from Rock Slough in the Sacramento-San Joaquin Delta. Four pumping plants lift the water 115 feet into the 48-mile concrete-lined canal which terminates at Martinez Reservoir. The capacity of the canal is 226 mgd (350 cfs) at the intake, and is reduced to 174 mgd (269 cfs) by the time it enters the San Francisco Bay Area. In 1954 pumping plant no. 1 had an installed capacity of 200 mgd (310 cfs). The water is distributed by the Contra Costa County Water District for industrial, irrigation, and domestic uses.

The canal water is a mixture of Sacramento River water of good quality and San Joaquin River water of poorer quality. Also some natural drainage from the surrounding area enters the canal. During the dry months of the irrigation season, the dissolved solids concentration of the water increases as a result of consumptive use of the water and the subsequent increase in dissolved solids in return wastes. The total concentration of the ions in solution and also the relative proportion of each ion change considerably with time. (See table 14.) In 1952, the dissolved solids in samples collected once a month ranged from 130 to 780 ppm. Total hardness ranged from 41 ppm on May 21 to 298 ppm on March 24. At times the water is a calcium and magnesium sulfate and chloride type, and at other times, the sodium salts predominate more noticeably in the latter part of the year. The sum of the two anions, sulfate and chloride, are apparently always in excess of the bicarbonate ion and the observed percent sodium is quite uniform throughout the year.

Table 14.—Chemical quality of Contra Costa Canal water

[Analyses by United States Bureau of Reclamation; results in parts per million except where indicated]

Date of collection	Cal- cium (Ca)	Magne- sium (Mg)	Sod- ium (Na)	Potas- sium (K)	Bicar- bonate (HCO ₃)	Car- bonate (CO ₃)	Sulfate (SO ₄)	Chlo- ride (Cl)	Ni- trate (NO ₃)	Dissolved solids	Per- cent sod- ium	Specific conduct- ance (micro- mhos at 25°C)
Jan. 21, 1952 ^a	33	23	70	3.0	89	0	100	99	0.5	500	46	710
Feb. 21, 1952 ^a	40	18	60	2.4	110	0	78	84	3.3	390	42	620
Mar. 24, 1952 ^b	42	47	140	2.4	120	8	200	210	.4	780	50	1300
Apr. 24, 1952 ^b	23	15	44	1.6	96	0	52	62	.5	240	44	450
May 21, 1952 ^b	11	3.3	15	1.3	38	0	14	20	.0	130	43	170
June 27, 1952 ^b	12	9.2	23	1.4	39	0	31	41	.2	150	52	270
July 25, 1952 ^b	24	13	47	2.0	76	0	38	77	.4	290	47	480
Aug. 29, 1952 ^b	18	11	37	1.6	73	0	33	62	.2	210	47	410
Sept. 26, 1952 ^b	31	17	61	2.0	98	0	58	94	.4	330	47	610
Oct. 30, 1952 ^b	36	23	76	2.6	120	5	64	120	.2	380	47	720
Nov. 26, 1952 ^b	37	21	84	2.7	120	3	73	130	.2	460	50	780
Dec. 29, 1952 ^b	39	27	110	1.3	88	13	120	150	2.1	550	53	940

^a Contra Costa Canal Intake, USBR Station 2-3-34, Rock Slough

^b Contra Costa Canal at 1st pump lift, USBR Station 2N-2E-25

Cache Slough System

The rapid growth of Vallejo and vicinity during World War II caused a water shortage; so a connection was made between the Vallejo system and that of the East Bay Municipal Utility District. Most of the supply was furnished by the latter agency until April 1953, when the contract was terminated. The city of Vallejo had, by this time, completed its Cache Slough system.

The Cache Slough system pumps water from Cache Slough, a tributary to the Sacramento-San Joaquin Delta near Rio Vista, and conveys the water to a treatment plant just north of Vallejo. The present transmission capacity is about 21 mgd or 23,500 acre-feet per year.

Raw Cache Slough water is of good chemical quality and generally similar to Sacramento River water when streams on the west side of the Central Valley are not flowing. The analysis of a sample taken May 14, 1953 (table 22), indicates the water is a calcium and magnesium bicarbonate type. Dissolved solids for this sample amounted to 248 ppm. Partial analyses indicate considerable fluctuation in quality. (See table 21.) Turbidity generally ranges from about 40 to 180 ppm, and total hardness from about 50 to 125 ppm. The variation in quality is probably due to periods of high surface runoff derived from heavy rains, and from high inflow at different times from tributaries such as Ulatie Creek, which is considerably more mineralized than Cache Slough water.

PUBLIC WATER SUPPLY SYSTEMS

The division of the San Francisco Bay Area by the bays, by mountains and valleys with their streams and ground-water basins, and by political boundaries has led to the formation of many public water supply systems. Some of the smaller systems obtain all or part of their water from larger systems.

In 1950, there were 164 public water supply systems of which the larger are those of the city of San Francisco, the East Bay Municipal Utility District, the Contra Costa County Water District, the Marin Municipal Water District, the San Jose Water Works, the city of Vallejo, and the systems of the California Water Service Company.

The costs of large scale developments are such that large municipal type districts or legal entities are required to provide sufficient financial backing. In the past, small water-service agencies have tended to merge in order to meet satisfactorily the demands of a rapidly growing area.

In most systems, surface supplies are the dominant source of water. The major exceptions are in the Livermore Valley and the Solano area where practically all demands are met from ground water. In this latter area, the city of Benicia obtains part of its supply from Lake Herman and Paddy Reservoir (combined capacity, 2,360 acre-feet). The Sonoma Valley demands are met mostly from ground water. The San Jose Water Works and several of the smaller systems obtain appreciable amounts from ground water.

Physical data for several public water systems are summarized in table 15. The information presented was furnished by the agencies listed.

Table 15—Public Water-Supply Systems in the San Francisco Bay Area, 1953

Public Supply System	Estimated population served	Source			Distribution				Output			
		Impounded storage (million gallons)	Transmission (maximum capacity in mgd)	Dependable yield of ground water (mgd)	Raw water storage (million gallons)	Treated water storage (million gallons)	Ground storage (million gallons)	Elevated storage (million gallons)	Service pumping capacity (mgd)	Average daily (mgd)	Average Day of maximum	Maximum daily (mgd)
										Months	Week	
City of San Francisco ^a	975,000	243,850	180		29,700		316	Incidental	60	121.1	130.8	166.8
San Mateo ^b	54,400						6			5.4		10.6
San Carlos ^c	21,100						2.3			2.0		3.6
Los Altos ^d	8,500						.9			1.1		2.5
Suburban ^e	24,400		10				1.15			3.3		6.4
City of San Jose	220,000	1,291	24			42.7	43.7		<10.5	25	4.5	48.4
Livermore ^f	10,160						.75			1.1		2.2
East Bay Municipal Utility District ^g	329,500	101,459	150			380	380		217	145	151	170
City of Martinez ^h	10,000		6							1.5		3.0
Contra Costa ⁱ	79,000	1,000	13.5			7.34	4.45		12	8.0	12.4	13.4
City of Pittsburg	12,000									1.9		
City of Vallejo ^j	75,000	4,390	21		15	2.6	50.5		12	9.5	14.0	16
City of Napa ^k	21,000	10,040	17			30		30		4	6.22	
City of Sonoma ^l	2,750								1	.5		1.5
Petaluma ^m	15,700				74		2.12			1.4		2.5
North Marin County Water District ⁿ	10,000	1,406	7			1	2.12			1.2		1.8
Marin Municipal Water District ^o	95,000	10,025	25			25.7	25.7		2.5	1.6	1.7	20

^a District of California Water Service Company.

^b Total capacity.

^c Boosting capacity.

^d Major portion of distribution is gravity feed from treatment plant.

San Francisco Water Department

The San Francisco Water Department obtains its water from local sources and from the Sierra Nevada. These sources can be divided into three units; the Peninsula system, the Alameda system, and the Hetch Hetchy system. Under the Hetch Hetchy system, water is obtained from catchment areas above the Hetch Hetchy Reservoir on the Toulumne River and Lake Eleanor on Eleanor Creek. The Alameda system receives its water principally from Calaveras Reservoir which impounds the runoff from Calaveras Creek watershed and from the upper Alameda Creek diversion. Two ground-water sources, the filter galleries at Sunol and the Pleasanton wells in the Livermore Valley, furnished supplementary supplies. The Peninsula system obtains water from Pilarcitos, San Andreas and Crystal Springs Reservoirs which are replenished by local runoff and water from the Alameda and Hetch Hetchy sources.

The storage capacities of the reservoirs in million gallons are as follows:

Hetch Hetchy.....	117,450
Lake Eleanor.....	8,500
Calaveras.....	31,580
Crystal Springs.....	22,580
San Andreas.....	6,190
Pilarcitos.....	1,010
Cherry ^a	87,300
Total.....	274,610

^a Cherry Reservoir is at present (1954) under construction.

Water deliveries for San Francisco and suburban areas for the fiscal years, 1949-50 through 1952-53, were as follows:

Year	Water Deliveries	
	Total Million gallons	Average mgd
1949-50.....	37,594	102.7
1950-51.....	38,751	105.8
1951-52.....	39,946	109.1
1952-53.....	43,230	118.4

Slightly more than half of the 1952-53 deliveries were obtained from the Hetch Hetchy system. During preceding years, the proportion from the Hetch Hetchy system was greater; in 1950-51 it was more than twice the amount obtained from local sources.

Water distributed by the San Francisco Water Department requires some treatment. This includes chlorination of all supplies, addition of lime to the soft Hetch Hetchy water for corrosion control, and copper sulfate treatment of local storage and impounding reservoirs to control algae activity. Fluoridation of approximately 50 percent of the water supplied to San Francisco began August 25, 1952.

The San Francisco Water Department furnishes water either wholly or in part to all cities and towns in San Mateo County and furnishes supplemental water to prin-

cipal Santa Clara Valley cities or communities north of Santa Clara and to southern Alameda County cities and communities from Hayward south. Distribution systems in these communities are owned by individual cities, public utility companies, water districts, or private individuals.

The waters of the San Francisco Water Department at the source range from soft mountain water to relatively hard ground water. (See table 16.) The waters of very low mineral content from the Hetch Hetchy system are mixed with the harder waters of larger mineral content to give a water that is moderately soft and relatively low in dissolved solids. The waters from all five sources can be classed as a calcium and magnesium bicarbonate type.

Typical analyses and range in several important chemical constituents in water delivered to consumers are shown in table 17. Variations in hardness are shown in figure 10. Water delivered by Crystal Springs lines and San Andreas lines varied little in quality during the 4 years but that delivered by the Bay Crossing lines varied considerably. This variation is the result of changes in the source of supply. For example, during the 1952-53 year, the Bay Crossing lines carried: A Hetch Hetchy-Calaveras mixture for the period of July 1 to August 13, October 27 to January 11, and April 5 to June 30; Calaveras water only, for the period August 13 to October 27; and Hetch Hetchy water only, or a Hetch Hetchy-ground water mixture, during the remainder of the year.

The water served to consumers complied with the bacteriological standards established by the U. S. Public Health Service and objectionable tastes and odors were absent.

San Jose Water Works

The San Jose Water Works obtains about 40 percent of its supply from surface water and 60 percent from wells in and near San Jose. The San Jose Water Works has authority to take 9,000 acre-feet per year from Los Gatos Creek and 1.29 mgd (1.96 cfs) by direct diversion from Saratoga Creek. The output of water for the entire system during 1953 averaged 25 mgd. The maximum daily output was 48.4 million gallons and the minimum daily output was 9.0 million gallons. The San Jose Water Works serves about 220,000 persons.

Treatment of surface water consists of aeration, sedimentation, ammoniation, and chlorination. Some wells are chlorinated. Raw water storage reservoirs are treated with copper sulfate to control algae.

Typical mineral analyses of Los Gatos Creek samples taken between December 1951 and May 1953, show a specific conductance range of 216 to 540 micromhos, total hardness of 60 to 250 ppm as calcium carbonate, and turbidity of 2 to 900 ppm. Table 18 gives annual composite analyses of San Jose water for the period 1946 through 1953. The composite is made up of many samples taken during each year. These analyses indicate that the water is a calcium and magnesium bicarbonate type and is comparatively uniform in concentration and composition throughout the year.

PUBLIC WATER SUPPLY SYSTEMS

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Table 14. —Chemical analyses of San Francisco Water Department water
[Analyses by San Francisco Water Department; results in parts per million except as indicated]

Source	Fiscal year (July 1 - June 30)	Silica (SiO ₂)	Alumina (Al ₂ O ₃)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Bicarbonate (HCO ₃)	Carbonate (CO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Boron (B)	Dissolved solids	Total hardness as CaCO ₃	Alkalinity as CaCO ₃	Specific conductance (micro-mhos at 25°C)	pH
UNTREATED																				
Hetch Hetchy at Alameda E. Portal	1949-50	13.0	0.01	1.01	0.0	2.4	1.0	1.2	10	0.0	3.2	1	0.08	0.01	0.1	27	10	8	18	6.9
	1950-51	3.0	0.06	0.04	0.0	6.4	1.5	4.1	23	2.0	2.8	5	0.06	0.03	0.15	36	22	31	63	8.1
	1951-52	2.0	0.06	0.04	0.0	6.4	1.5	4.1	23	2.0	2.8	5	0.06	0.03	0.15	36	22	31	63	8.1
Calaveras Reservoir	1949-50	7.5	0.03	0.04	0.0	21.5	7.8	6.8	98	0.0	10.0	5	0.10	0.15	0.15	108	86	90	192	7.7
	1950-51	7.0	0.03	0.02	0.0	25.2	8.8	8.8	105	0.0	17.2	7	0.10	0.20	0.15	128	99	86	235	7.7
	1951-52	7.0	0.03	0.02	0.0	25.2	8.8	8.8	105	0.0	17.2	7	0.10	0.20	0.15	128	99	86	235	7.7
Pleasanton well	1949-50	8.2	0.01	0.00	0.0	26.3	8.4	9.8	107	0.0	16.5	8	0.20	0.01	0.09	130	100	86	213	7.8
	1950-51	15.0	0.03	0.03	0.0	51.4	25.4	30.1	269	0.0	39.5	28	0.05	0.50	0.18	321	233	230	548	7.9
	1951-52	15.0	0.03	0.03	0.0	51.4	25.4	30.1	269	0.0	39.5	28	0.05	0.50	0.18	321	233	230	548	7.9
Summit Filter	1949-50	11.6	0.01	0.00	0.0	45.9	21.9	27.2	222	0.0	34.3	28	0.10	1.6	0.07	280	206	182	433	7.2
	1950-51	13.5	0.05	0.03	0.0	51.9	13.8	25.8	193	0.0	62.8	21	0.10	0.02	0.39	286	187	158	466	7.9
	1951-52	6.8	0.01	0.02	0.0	53.6	18.9	28.4	234	0.0	48.0	18	0.06	0.03	0.30	231	212	182	487	7.9
Pilarcitos Reservoir	1949-50	7.0	0.02	0.01	0.0	14.4	5.2	13.7	62	0.0	20.2	16	0.05	0.07	0.07	107	57	51	199	7.7
	1950-51	6.5	0.01	0.01	0.0	12.8	5.5	12.0	65	0.0	10.5	17	0.06	0.05	0.08	96	56	53	157	7.8
	1951-52	6.5	0.01	0.01	0.0	12.8	5.5	12.0	65	0.0	10.5	17	0.06	0.05	0.08	96	56	53	157	7.8
Crystal Springs lines ^a	1949-50	6.0	0.02	0.02	0.0	15.5	4.9	11.7	63	0.0	17.8	9	0.05	0.03	0.10	97	61	52	162	7.6
	1950-51	6.3	0.01	0.02	0.0	15.9	4.2	11.2	66	0.0	16.1	9	0.05	0.03	0.12	94	57	53	156	7.7
	1951-52	8.1	0.05	0.05	0.0	12.8	5.6	9.8	61	0.0	9.9	10	0.06	0.04	0.14	85	55	50	139	7.4
San Andreas lines ^b	1949-50	8.5	0.02	0.01	0.0	16.4	5.6	12.4	66	0.0	13.2	13	0.05	0.05	0.10	101	64	54	173	7.5
	1950-51	8.5	0.01	0.03	0.0	15.5	5.8	11.7	70	0.0	12.6	12	0.05	0.05	0.14	100	63	57	171	7.7
	1951-52	5.3	0.00	0.04	0.0	15.0	5.0	10.9	64	0.0	10.7	12	0.05	0.04	0.09	90	54	52	151	7.8
Bay Crossing lines ^c	1949-50	8.6	0.00	0.08	0.0	15.5	5.6	10.3	66	0.0	11.4	13	0.05	0.22	0.06	98	62	54	185	7.5
	1950-51	7.0	0.05	0.03	0.0	9.5	3.7	6.5	42	0.0	8.7	7	0.09	0.10	0.15	63	39	34	106	7.3
	1951-52	3.0	0.00	0.05	0.0	7.5	3.4	5.3	34	0.0	6.7	5	0.05	0.04	0.12	50	33	28	85	7.3
Stone Dam Reservoir ^d	1949-50	6.7	0.02	0.00	0.0	17.4	5.0	8.8	66	0.0	13.1	7	0.16	0.20	0.12	93	64	57	147	8.6
	1950-51	8.0	0.01	0.02	0.0	22.0	10.2	19.2	120	0.0	14.3	28	0.04	0.05	0.15	168	112	98	297	7.7
	1951-52	8.0	0.01	0.02	0.0	22.0	10.2	19.2	120	0.0	14.3	28	0.04	0.05	0.15	168	112	98	297	7.7
	1952-53	13.0	0.02	0.00	0.0	32.0	11.7	20.2	133	0.0	21.9	28	0.02	0.01	0.09	192	126	109	339	8.1

^a Supplies downtown, commercial, waterfront areas of the city, and Peninsula communities as far south as San Carlos.

^b Supplies residential areas of the city.

^c Average analyses of water served. In 1949 to Peninsula communities south of San Carlos and some communities in Alameda County.

^d Supplies Coast County Water District.

Table 17.—Ranges in chemical constituents in water served to consumers, San Francisco Water Department, July 1, 1949 to June 30, 1953

[Analyses by San Francisco Water Department]

Source	Year	Chloride (ppm)	Alkalinity as CaCO ₃ (ppm)	Hardness as CaCO ₃ (ppm)	pH	Turbidity (ppm)	Temp. °F	Dissolved oxygen (ppm)
Crystal Springs lines.....	^a 1949-50	8-16	50-68	.....	7.3-7.9	.....	44-68	4.6-13.2
	1950-51	.....	45-58	46-64	7.3-7.9	0.5-12	50-70	7.2-10.9
	1951-52	9-13	43-57	48-70	7.2-7.9	1-14	50-70	6.0-12.0
	1952-53	7-13	47-70	52-78	7.2-7.9	.5-14	51-71	6.7-11.4
San Andreas lines.....	1949-50	.....	.....	.....	.....	.....	.....	.....
	1950-51	11-18	50-62	56-72	7.5-8.2	1.0-18	49-68	6.8-12.5
	1951-52	12-18	40-56	54-66	7.3-7.9	1.0-11	48-69	7.6-12.0
	1952-53	9-16	51-61	60-71	7.2-8.1	1. - 9.5	50-70	7.2-11.4
Bay Crossing lines ^b	1949-50	5-14	13-112	16-118	7.1-7.9	.....	46-66	7.6-12.4
	1950-51	4-17	10-154	12-164	7.1-9.2	.5- 9.0	47-70	5.7-12.7
	1951-52	4-14	15-71	16-68	7.6-9.4	.5- 7.5	48-67	6.0-12.8
	1952-53	^c 1-16	^c 16-97	^c 17-101	7.4-9.4	.5- 5.0	48-70	6.7-11.8

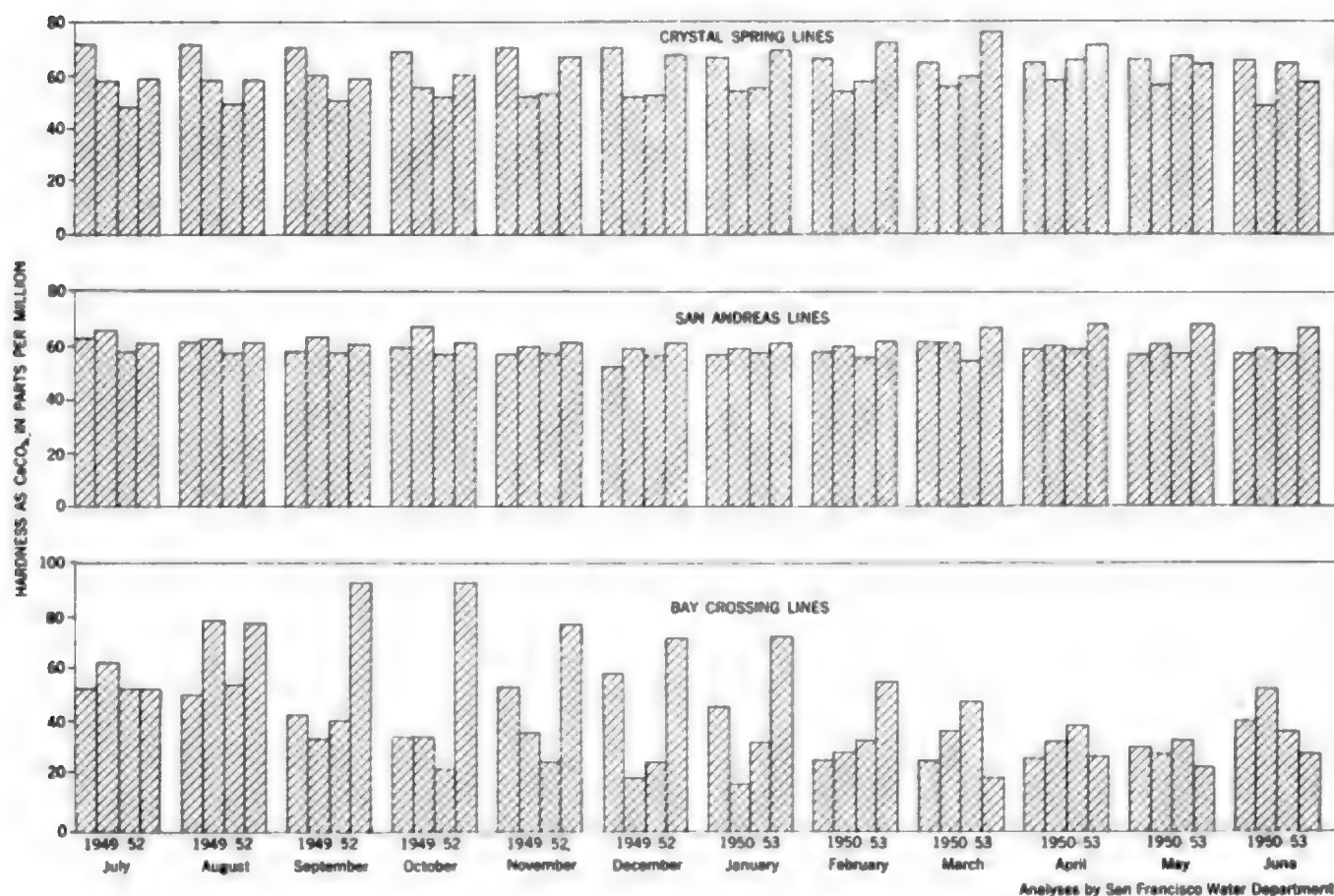
^a The ranges of 1949-50 fiscal year are for the Peninsula reservoirs.^b The higher concentrations were for short periods only, and as an index of average chemical content the yearly averages for hardness were 1949-50, 39 ppm; 1950-51, 36 ppm; 1951-52, 36 ppm; 1952-53, 56 ppm.^c For a few short periods hardness reached 183 ppm, alkalinity 143 ppm, and chloride 30 ppm.

Figure 19.—Hardness of water delivered to consumers by San Francisco Water Department.

Table 18.—Chemical analyses of composite water samples, San Jose Water Works, 1946-53
[Analyses by San Jose Water Works, results in parts per million except pH]

Year	Silica (SiO ₂)	Cal- cium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Bicar- bonate (HCO ₃)	Sulfate (SO ₄)	Chlo- ride (Cl)	Nitrate (NO ₃)	Total hardness as CaCO ₃	Alka- linity	Specific conduct- ance (micro- mhos at 25°C)	pH
1946.....	16	57	21	7		223	32	16	4.0	228	183	470	.....
1947.....	23	50	22	22		232	40	18	7.0	214	190	488	7.9
1948.....	18	52	18	26		221	40	17	7.4	205	190	484	8.5
1949.....	14	45	21	26		221	41	17	4.3	200	186	470	8.4
1950.....	21	42	21	29		222	41	16	6.8	194	186	475	8.3
1951.....	15	44	17	21		198	34	14	3.7	180	170	432	8.6
1952.....	19	42	16	24		203	28	15	4.9	170	172	423	8.2
1953.....	20	44	17	23		209	28	15	3.7	180	178	423	8.5

Bacterial analyses of raw water shows most probable number of coliform organisms for 100 milliliter (MPN/100ml), ranges from 13 to 2400.

East Bay Municipal Utility District

The East Bay Municipal Utility District obtains its water supply from two sources, the Mokelumne River impounded in Pardee Reservoir, and from runoff into the four terminal reservoirs, San Pablo, Upper San Leandro, Chabot, and Lafayette. The combined total capacity of the five reservoirs is 311,400 acre-feet or 101,500 million gallons.

The District has a permit to divert 200 mgd (310 cfs) from the Mokelumne River and has filed an application to divert an additional 125 mgd (194 cfs) or a total of 364,000 acre-feet annually.

The District also has a license to divert 16,880 acre-feet annually at a maximum rate of 42 mgd (65 cfs) from San Pablo Creek and 27 mgd (42 cfs) from San Leandro Creek.

The average annual runoff into the four terminal reservoirs is 10,000 million gallons. It is only in abnormally wet years that any spill occurs.

The delivery of the system has ranged from 187 to 79 mgd with an average annual output of 115 mgd. The rated capacities in million gallons daily of the five treatment plants are Orinda, 105; San Pablo, 54; Upper San Leandro, 31; Chabot, 7; and Lafayette, 21; or a total of 218 mgd.

In general, all water treated at the Orinda treatment plant is from the Mokelumne River; however, this plant can treat water from Lafayette Reservoir if the Mokelumne Aqueducts are shutdown. Treated water is stored in distribution tanks and reservoirs (total capacity, 390 million gallons). The total pumping capacity of the distribution pumping plants is 238 mgd.

All water supplied to the distribution system is treated and filtered; treatment included coagulation with alum, pH adjustment with lime for corrosion control, sedimentation, filtration through rapid sand filters, and chlorination. At times, activated carbon is used for taste and odor control. Copper sulfate is used in the storage reservoirs to control algae.

The District serves an area of 208 square miles with a population of nearly 1 million people. Besides supplying water to Oakland, it supplies many cities, towns, and unincorporated areas in Alameda and Contra Costa Counties.

Tables 19 and 20 show the quality of water from the four principal sources and the quality at the different treatment plants. The supply obtained from the Mokelumne River is soft mountain water. Total dissolved solids, chlorides, and sulfates are low, and hardness ranged from 20 to 26 ppm for the monthly analyses during the 1953 calendar year. San Pablo, Upper San Leandro, and Chabot waters are considerably more concentrated and harder. Hardness ranged from 192 ppm for Chabot water to 108 ppm for San Pablo water. Generally turbidities were less than 1 ppm. The variations with time of the relative proportions of the different ions in

Table 19.—Chemical analyses of treated waters from principal sources, East Bay Municipal Utility District, 1950-53

[Analyses by East Bay Municipal Utility District; results in parts per million except pH]

Source	Month and year	Silica (SiO ₂)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Alkalinity as bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Dissolved solids	Hardness as CaCO ₃		Specific conductance (micro-mhos at 25°C)	pH
														Total	Non-carbonate		
Mokelumne.....	June 1950	7.2	0.4	0.00	0.0	6.0	0.7	4.7	24	1.1	5	0.1	25	18	0.9	.....	9.1
	June 1951	9.4	.2	.00	.0	7.8	1.1	5.7	34	1.3	5	.0	44	24	.0	.....	8.9
	June 1952	5.5	.7	.02	.0	6.4	.7	1.0	22	1.6	1	.0	46	19	.8	.....	8.9
	June 1953	9.8	.3	.03	.0	6.9	1.0	1.6	27	1.4	1	.0	48	21	.0	42.5	9.4
San Pablo.....	June 1950	1.3	2.6	.00	.0	23	5.6	13	80	24	13	.1	112	81	15	.....	8.0
	June 1951	.9	4.5	.00	.0	30	8.0	21	109	41	15	.0	181	108	19	.....	8.3
	June 1952	2.2	1.3	.02	.0	35	10	18	115	56	13	.1	209	131	37	.....	8.1
	June 1953	1.1	1.5	.02	.0	33	11	22	120	52	16	.0	207	127	29	300	8.3
Upper San Leandro...	June 1950	5.6	.6	.00	.0	36	13	20	141	45	18	.0	220	144	28	.....	7.9
	June 1951	7.9	1.1	.00	.0	35	13	19	139	42	16	.1	236	140	26	.....	8.1
	June 1952	10.7	.8	.03	.0	36	12	13	127	48	11	.1	215	141	37	.....	8.0
	June 1953	3.2	2.0	.05	.0	35	12	19	141	44	12	.2	214	137	21	290	8.4
Chabot.....	June 1950	.4	.9	.00	.0	48	22	34	199	71	32	.2	316	208	45	.....	7.9
	June 1951	3.7	1.5	.00	.0	49	21	33	190	79	30	.2	355	208	52	.....	8.1
	June 1952	7.0	1.4	.01	.0	37	15	17	132	57	16	.2	232	153	45	.....	7.9
	June 1953	.9	1.6	.02	.0	41	18	21	161	60	18	.1	259	175	43	375	8.0

Table 20.—Range in monthly chemical and physical characteristics of treated water, East Bay Municipal Utility District, 1953

[Analyses in parts per million except pH by East Bay Municipal Utility District]

Treatment plant	Chloride (Cl)		Hardness as CaCO ₃		Alkalinity as CaCO ₃		Turbidity		pH	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
Upper San Leandro.....	14	11	156	134	130	96	0.6	0.2	8.4	7.9
Orinda.....	1	1	25	20	26	18	2	.2	9.5	8.9
San Pablo.....	18	14	130	108	106	88	.2	.2	8.3	7.9
Chabot.....	19	15	192	155	144	118	.6	.2	8.5	7.8
Lafayette.....	2	1	26	19	26	19	2	.2	9.6	8.9

solution are small for the water supplied consumers. These waters can be readily classed as of the calcium and magnesium bicarbonate type.

Cities of Pittsburg and Martinez and California Water Service Co.

The city of Pittsburg, serving a population of 14,000 obtains its water supply from the Contra Costa Canal through the Contra Costa Water District, which is the distributing agency for the canal water. In 1952, the city replaced its old treatment plant with a new 8 mgd plant. Treatment includes coagulation, sedimentation, filtration, and chlorination.

The city of Martinez, with a population of 8,218 in 1950, obtains its water from the canal. The average annual volume of water treated during the 1950-53 period was 485 million gallons. The treatment plant has a design capacity of 4 mgd. Treatment includes aeration, chlorination, coagulation, sedimentation, and filtration.

The California Water Service Company obtains part of its supply from the canal. The area served is shown on plate 5. The chemical quality of Contra Costa Canal water is described in table 14.

Vallejo Water Supply System

The water supply for the city of Vallejo is obtained from the Maine Prairie Branch of Cache Slough, Gordon Valley Creek and Green Valley Creek. Water from the latter two sources is stored in Lakes Curry, Madigan, and Frey. The city of Vallejo has estimated that 3,400 million gallons would be the annual use for 1953-54, of which 76 percent would be obtained from Cache Slough. The safe yield of the system has been estimated as 8,897 million gallons annually. The water system serves an estimated population of 42,000 people including Rockwell, Cordelia, and Mare Island. It is proposed to provide service to areas such as Travis Air Force Base, Fairfield, and Suisun, which lie along the route from Cache Slough.

The Fleming Hill treatment plant, with a capacity of 14 mgd is 1 mile north of the city. Treatment includes pre- and post-chlorination, lime for pH and corrosion control, addition of carbon, coagulation and rapid sand filtration.

Cache Slough enters the Sacramento River above Rio Vista, and drains an area used mostly for agriculture. The water in the slough is subject to tidal action and is therefore sufficiently circulated to prevent stagnation.

As noted in the section discussing imported water, it is of good chemical quality but subject to considerable variation in total hardness and turbidity. (See table 21.)

Table 21.—Chemical analyses and turbidity measurements of water from Vallejo Water Supply System

[Analyses by Vallejo Water Supply System; results in parts per million except pH]

Date	Ca	Mg	Cl	Alkalinity as CaCO ₃	Hardness as CaCO ₃	pH	Turbidity
Untreated Water							
July 13, 1953....	.....	.....	11	50	88	.....	123
Oct. 21, 1953....	.....	.....	335	112	116	8.0	50
Nov. 2, 1953....	.....	.....	32	106	103	7.8	53
Dec. 10, 1953....	20	12	34	96	102	7.8	48
Jan. 19, 1954....	20	7.3	25	82	80	7.6	400
Feb. 17, 1954....	.....	.....	18	54	52	7.8	150
Mar. 15, 1954....	19	12	35	90	98	7.4	78
Apr. 2, 1954....	26	11	32	108	112	7.5	180

Treated Water

July 13, 1953....	.....	.....	16	58	61	.....	0.5
Oct. 21, 1953....	.....	.....	300	93	122	7.3	.2
Nov. 2, 1953....	.....	.....	32	93	114	7.2	.2
Dec. 10, 1953....	22	12	14	75	10	7.4	.2
Jan. 19, 1954....	20	7	25	58	88	.....	6.4
Feb. 17, 1954....	.....	.....	14	59	83	8.3	1.5
Mar. 15, 1954....	23	13	37	67	109	6.7	.2
Apr. 2, 1954....	29	11	27	75	118	6.7	.3

The treated water is generally a little harder than Cache Slough water. Turbidities are reduced to a few tenths of a part per million in the treated water.

Analyses of samples taken in June 1950, of Green Valley Creek and Gordon Valley Creek, minor sources of supply, indicate water from these creeks is a calcium and magnesium bicarbonate type (table 22).

Table 22.—Chemical analyses and related physical measurements of water from Vallejo Water Supply System.

[Analyses by Vallejo Water Supply System; results in parts per million]

Constituent	Cache Slough ^a	Green Valley Creek ^b	Gordon Valley Creek ^b
Silica (SiO ₂).....	15	28	5.0
Iron (Fe).....		.0	.0
Manganese (Mn).....		.0	.0
Calcium (Ca).....	17	6.0	41
Magnesium (Mg).....	13	3.0	17
Sodium (Na).....	21	c10	c27
Potassium (K).....	2.0		
Carbonate (CO ₃).....	0	0	0
Bicarbonate (HCO ₃).....	110	37	183
Sulfate (SO ₄).....	26	10	65
Chloride (Cl).....	20	8	11
Fluoride (F).....	.2	.0	.0
Nitrate (NO ₃).....	.3	1.0	.0
Dissolved solids.....	248	90	263
Hardness as CaCO ₃			
Total.....	96	29	170
Noncarbonate.....		0	22
Color.....		10	5
pH.....		7.7	7.9
Turbidity.....		10	25

^a Near Vallejo Pumping Plant, average for May 1953.

^b Raw water, average for June 1950.

^c Calculated Na + K.

Dissolved solids and hardness for Green Valley Creek were 90 and 29 ppm, respectively, and for Gordon Valley Creek 263 and 170 ppm, respectively.

Napa Water Department

The city of Napa obtains its entire supply from surface water stored in Milliken and Conn Reservoirs. Milliken Reservoir obtains its water from Milliken Creek, and Conn Reservoir obtains its water from Conn, Childs, Moore, and Sage Creeks. The capacities of the Milliken and Conn Reservoirs are approximately 640 million gallons and 10,000 million gallons, respectively. The system serves an estimated population of 20,000 and has an average output of 4 mgd and a maximum transmission capacity of 17 mgd. Treatment includes chlorination.

An analysis of water taken from the Conn pipeline March 30, 1953, before chlorination, follows:

[Analysis by laboratories of Brown and Cadwell, San Francisco, Calif.; results in parts per million except pH and conductance]

Silica (SiO ₂).....	16	Chloride (Cl).....	5
Iron (Fe).....	.22	Nitrate (NO ₃).....	0
Manganese (Mn).....	.10	Total solids (evaporation).....	150
Calcium (Ca).....	18	Total hardness as CaCO ₃	127
Magnesium (Mg).....	20	Alkalinity as CaCO ₃	116
Sodium (Na) and potassium (K).....	1.2	Specific conductance.....	256
Bicarbonate (HCO ₃).....	132	pH.....	7.9
Carbonate (CO ₃).....	0		
Sulfate (SO ₄).....	14		

The water is moderately hard and can be classed as a calcium and magnesium bicarbonate type.

North Marin County Water District

The water supply for the North Marin County Water District is obtained entirely from Novato Creek. The Novato Creek treatment plant, 3 miles west of Novato, has a designed capacity of 4 mgd, and an overload capacity of 7 mgd. The treatment consists of pre- and post-chlorination, addition of activated carbon, lime and alum, sedimentation, and rapid sand filtration. The total water delivered during 1953 was 2,200 million gallons. The system supplies an estimated population of 10,000 people in the communities of Novato, Black Point, and Ignacio.

Novato Creek, an intermittent stream, drains a small area of about 17 square miles above Novato. The average discharge for the 7-year period ending September 1953, was 7.39 mgd (10.6 cfs).

Analyses of Novato Creek water indicate that it is of fairly good quality. (See table 5.) The water is a calcium and magnesium bicarbonate type with low dissolved solids.

Marin Municipal Water District

Marin Municipal Water District obtains most of its supply from surface water and only a small part from springs. The reservoirs from which the district draws its supply and their capacities are: Alpine Lake, 3,000 million gallons, Bon Tempe, 1,400 million gallons, Lagunitas, 111 million gallons and Phoenix, 199 million gallons. Uncompleted Kent Reservoir will increase storage capacity by 5,500 million gallons. The communities supplied by the system are San Rafael, San Anselmo, Woodacre, Fairfax, Ross, Kentfield, Greenbrae, Larkspur, Corte, Madra, Mill Valley, Sausalito, Tiburon, Belvedere, Forest Knolls, San Geronimo, Lagunitas, Hamilton Air Force Base, Fort Baker, and Naval Net Depot. The total consumption for the 1952-53 year was 4,500 million gallons.

The following analysis of a sample of the Marin District supply, collected January 2, 1953, at the inlet to Forbes distribution reservoir, indicates good quality.

[Results in parts per million except conductance]

Sodium (Na).....	6.2	Dissolved solids.....	97
Magnesium (Mg).....	7.6	Total hardness as CaCO ₃	49
Calcium (Ca).....	7.1	Noncarbonate.....	33
Bicarbonate (HCO ₃).....	20	Conductance (micromhos).....	117
Sulfate (SO ₄).....	31		
Chloride (Cl).....	10		

During the summer, the concentration of dissolved minerals is a little higher because of evaporation from the reservoirs, considerably less rainfall, and less runoff into the storage reservoir.

Hardness of the water delivered during the period July 1951 to June 1952 varied from 65 ppm in July to 42 ppm in February (table 23).

Table 23.—Physical quality and pH of raw and treated waters, Marin Municipal Water District, July 1951 to June 1952

Month and year	Lake Alpine (raw water)			Distribution system (treated water)		
	Turbidity (ppm as SiO ₂)	Color	pH	Turbidity (ppm as SiO ₂)	Color	pH
1951						
July.....	2.2	18	7.7	2.2	15	7.7
August.....	ag	34	6.9	6	18	7.2
September.....	4.5-8	15-22	6.9	2.2-4.5	10-12	7.7
October.....	4.5-8	15-25	7.0-7.7	4.5	18	7.7
November.....	7.7-9.5	20-30	6.8-7.3	6-9.5	12-30	7.0-7.7
December.....	22-35	55-80	7.3	1.3-2.7	3-8	6.3-6.9
1952						
January.....	13	45-55	7.4	1.1-3.5	3-8	6.3-6.9
February.....	9.5	35	7.3	1.0-1.7	3-8	6.6-7.3
March.....	8-7.8	25-30	7.7	1.0-2.5	4-10	6.3-7.1
April.....	4.5-7.8	25	7.3	1.0-2.5	3-10	6.3-7.1
May.....	2.7-4.5	15-25	7.3	1.0-2.7	3-18	6.9-7.7
June.....	2.2	15	7.7	1.7	15	7.7

^a Increase in turbidity and color due to changing from top to second intake valve.

During the same period, turbidity measurements of Lake Alpine water, the major source of supply, ranged from 2.2 ppm in July 1951 to 35 ppm during November.

Treatment of the water includes chlorination and the use of alum for sediment removal. Only one reservoir, Phoenix Lake, required copper sulfate treatment for algae control during the year.

WATER USE

Based on studies made by California Division of Water Resources the gross demand for water in the San Francisco Bay Area in 1949 was about 710,000 acre-feet per year, or 630 mgd. About 42 percent, or 300,000 acre-feet, was used to meet the requirements of irrigated agriculture; about 53 percent, or 380,000 acre-feet, for urban requirements; and 5 percent for other requirements. Of the 300,000 acre-feet required for irrigation approximately 70,000 acre-feet was returned to ground-water storage, mainly in the Santa Clara Valley. This gross demand is met from developments of both local and imported waters which in 1954 were capable of supplying a little more than 1,000,000 acre-feet. Present installations, developing local surface and ground-water supplies, have a yield of about 480,000 acre-feet.

The area using water at the present time totals about 439,000 acres or 17 percent of the land in the San Francisco Bay Area. An additional 272,000 acres are devoted to agricultural land that is not irrigated. Plate 5 shows the areas served by nine public water systems in the San Francisco Bay Area.

Urban Use

Of the 380,000 acre-feet, or about 340 mgd, required for urban use 50 percent is for domestic use, 37 percent for industrial use, 8 percent for commercial use, and 5 percent for other uses (parks, institutions, etc.). (See fig. 20.)

Data regarding the use of water by domestic, industrial, commercial, and other consumers show some general trends. Domestic use per capita has increased practically every year recently and in 1950 was about 66 gallons per capita per day. The rapid development of the area has increased the demands for water for industrial and commercial use. In 1950 the industrial

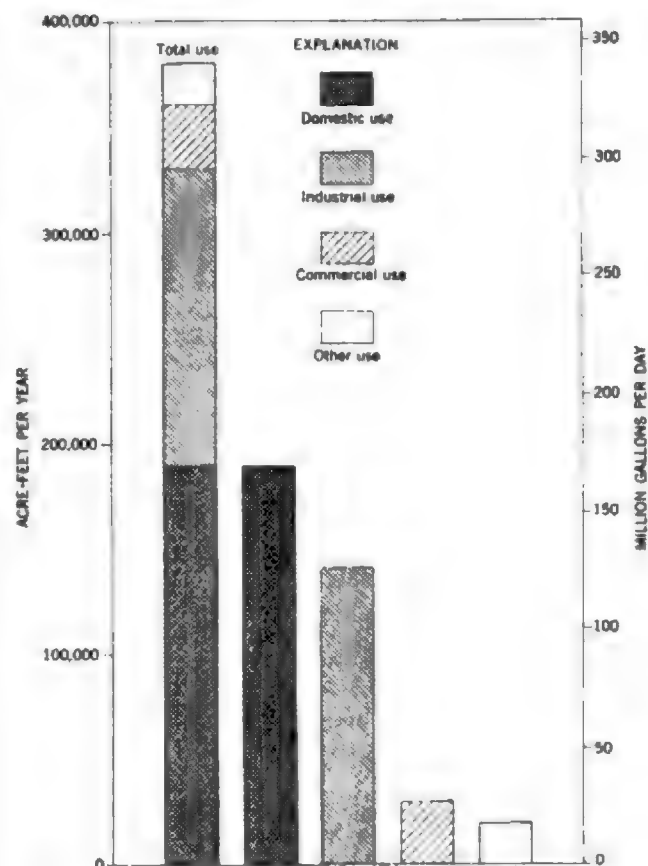


Figure 20.—Urban use of water, San Francisco Bay Area, 1950.

WATER RESOURCES OF THE SAN FRANCISCO BAY AREA

use was about 49 gallons per capita per day, the commercial use was about 10 gallons per capita per day. Other uses were about 7 gallons per day per capita. Therefore, the total urban use is about 132 gallons per capita per day.

In the city of San Francisco, 47 percent of the water is used for domestic purposes and 53 percent for industrial and commercial uses. Corresponding figures for the East Bay Municipal Utility District, which

serves the other major urban areas, are 68 percent and 32 percent.

Industrial Use

Some general statements can be made and figures given on the industrial use of water, based on a field survey made by the California Division of Water Resources during the period 1948-50 (table 24).

Table 24.—Water demands by industry. San Francisco Bay Area, 1948-50

(Source of data: California Division of Water Resources)

Type of industry	Number of establishments sampled	For the establishments sampled					
		Maximum demand, acre-feet/yr.	Minimum demand, acre-feet/yr.	Average demand, acre-feet/yr.	Total demand, acre-feet/yr.	Net area, acres	Unit demand, acre-ft/acre/yr.
Chemical products...	26	11,520	0.2	597	15,531.0	575.5	27.0
Contractors.....	8	.9	.03	.4	2.9	6.5	.45
Drayage.....	10	17.6	.2	3.0	30.1	23.2	1.3
Food.....	5	367	1.1	104	935.0	34.2	27.3
Lumber and allied products.	10		.03	1.0	10.0	15.3	.65
Metal products.....	56	15,100	.04	321	18,001.4	490.6	36.7
Metal refining.....	4	322	5.5	148	592.3	106.6	5.6
Miscellaneous mfg...	9	1.2	.04	.5	4.1	4.3	.95
Oil refineries.....	4	6,752	-1,467	3,797	15,186.6	1,194.0	12.7
Paper and allied products.	11	10,770	.8	1,572	17,293.0	112.7	153.4
Rubber products.....	4	575	7.3	153	610.7	17.4	35.1
Warehouses and storage.	14			.4	5.9	8.3	.71
Wholesale butchers, meat packers, etc.	18	714		90.3	1,624.9	130.4	12.5
Wholesale distributors.	56	13.2	.05	1.2	64.7	64.6	1.0
Lesser categories:							
Bakeries.....	2	40.5	4.5	22.5	45.0	1.2	37.5
Breweries.....	1				338.0	3.2	105.6
Cold storage.....	3			22.1	66.3	4.3	15.4
Creameries.....	1				120.3	2.1	57.3
Extracts.....	2	23.1	1.6	12.4	24.8	1.5	16.5
Laundries.....	1				52.3	1.6	32.7
Nonalcoholic beverages.	1	24.5	1.1	16.4	49.2	4.5	10.9
Printers.....	2	45.6	7.3	26.4	52.9	4.5	11.8
Railroad yards.....	1				328.6	191.0	1.7
Sugar refineries...	1				1,574.7	11.0	143.2
Tanneries.....	2	88.6	80.7	84.6	169.3	2.9	58.4
Others.....	7			16.7	116.8	38.3	3.0
Total or mean...	265				72,830.8	3,049.7	23.9

Some private wells have been abandoned in recent years due to salt-water encroachment and those remaining furnish only a small part of the water required. Six establishments in Emeryville obtained approximately 10 percent of their supply from private sources. In the Pittsburg area, those industries contacted reported pumping a total of 32,000 acre-feet annually from pri-

vate wells and from Sacramento-San Joaquin delta channels. Public water systems supply most of the industrial demand mainly from surface water sources.

The California Division of Water Resources data were originally used to estimate the total 1950 use and the use after ultimate development using the area-depth

method. The net area as used in table 24 is defined as "...the actually developed portion of an area which has been classified. Net area is therefore equal to gross area less streets, sidewalks, and vacant areas." Thirty percent or 3,450 net acres of the total industrial net acreage in the San Francisco Bay Area was sampled. For most of the types of industry listed, the number of establishments sampled is only a small part of those in the Bay Area. The average use tabulated is for the general type listed and not for any specific industry within the general category; also the inclusion of one or more large water users unduly affects the average and the unit demand.

Uses and quantities of water not related to nor included in those mentioned above are the use of the saline bay waters for cooling and for the production of salt in solar evaporation ponds. Steam-electric plants are located at various points around the bay and use about 2,000 mgd for cooling. The solar evaporation ponds occupy 32,000 acres along the southern shores of San Francisco Bay. About 1,000,000 tons of salt is produced annually from 40,000 acre-feet of saline water. An additional 9,350 acres will be developed northwest of Vallejo between the Napa River and Sonoma Creek.

Irrigation

Surface Water

In 1954, the land devoted to agriculture in the San Francisco Bay Area totaled about 464,000 acres. Of this total, about 35 percent, or 163,000 acres, was used for irrigated agriculture.

The use of surface water for irrigation in the San Francisco Bay Area is a minor part of the total use for irrigation. Stanford University diverts about 900 acre-feet annually from Los Trancos and San Francisquito Creeks for irrigation on the campus. Fragmentary records indicate that about 500 acre-feet per year is pumped from Los Gatos Creek, and that about 4,000 acre-feet per year is pumped from Coyote Creek. A few privately owned pumps divert small amounts of water from other streams in the area.

Ground Water

The lands totaling approximately 163,000 acres used for irrigated agriculture are supplied almost entirely from ground water. The withdrawal of ground water for irrigation in 1950 was on the order of 300,000 acre-feet. Less than 5 percent of this total was used in the valleys north of the bays. About two-thirds of the ground water for irrigation was used in Santa Clara Valley, and nearly all of the remainder in Alameda County, on the alluvial plain near the bay, and in Livermore Valley. Only minor amounts of ground water are used for irrigation in Ygnacio, Clayton, Concord, and San Ramon Valleys.

Studies by the California Division of Water Resources indicate that the present irrigation methods used in the Livermore Valley, Santa Clara Valley, and southern Alameda County result in the consumption of approximately 60 percent of the water applied.

Changes in Water Quality with Use

A large percentage of the surface and ground waters used for domestic, industrial, and irrigation purposes is returned to the streams and ground-water reservoirs. This return water is generally of poorer quality than the original water. The water used for domestic purposes picks up soaps and other household chemicals and wastes to increase its total mineral concentration. The suspended matter in sewage is usually a removable contaminant, but soluble salts are left in the water. Process water effluent from most industries and return flow from irrigation are higher in dissolved minerals than the original water used and may not be suitable for reuse.

Excessive pumping in some of the ground-water basins may cause the water levels to decline sufficiently to allow saline water from the bay to encroach the water-bearing zones and contaminate the fresh water in the underground reservoir.

POTENTIALITIES

Since the Bay Area is one of deficient water supply, demands for more water will have to be met largely by importations from outside the area. Only a few small additional surface-water supplies are economically feasible within the San Francisco Bay Area. The ground-water basins cannot support large additional withdrawals. However, the present potential of the various public water systems exceeds the present demands.

The 1953 demands and safe yields of six public water systems are given in table 25. Safe yield is defined as the amount of water which can be drawn annually from a given source without creating a water shortage in any year.

The demand for irrigation water is met almost entirely from ground-water basins and generally is in localities where water is not otherwise abundant. Increased demands on small supplies, some of which are now overdrawn, will increase pumping lifts and costs. The rising cost of pumping and the expected increased cost to provide supplemental water will eventually force an improvement in the present irrigation methods. If the present efficiency of irrigation methods

Table 25.—Present demands and safe yields of public water supply systems

Public water system	1953 demand (acre-feet)	Safe yield (acre-feet)
City of San Francisco.....	140,000	230,000
East Bay Municipal Utility District.	130,000	240,000
Contra Costa County Water District.	33,000	194,700
City of Vallejo.....	11,000	27,300
City of Napa.....	3,300	12,200
Marin Municipal Water District.	13,400	^a 18,700

^a Upon completion of Lower Lagunitas Project, now (1954) under construction.

of about 60 percent could be increased to 70 percent, an appreciable amount of water would be available for additional use.

The California Division of Water Resources has estimated that with 85 percent urbanization, the total use under ultimate development will be between 3,000,000 and 3,400,000 acre-feet annually, depending on whether or not the tidelands are reclaimed. It is assumed that a truck-farm type of agriculture will occupy 15 percent of the area. The figures were derived by applying a factor of water use to each class of land use.

An alternate estimate based on an ultimate population of 13,400,000 and a gross water use of 172 gallons per capita per day would require a total use of approximately 2,600,000 acre-feet. Comparable figures for 1950 are: population, 2,560,000; gallons per capita per day, 132; and acre-feet, 380,000.

The rapid growth of suburban developments during the past 10 years has encroached upon valuable agricultural land and also upon undeveloped mountain and foothill areas. The continued urbanization of agricultural lands will change the present pattern of water use.

In contrast to the present water service area of about 439,000 acres (17 percent of the total land area), the ultimate habitable area has been estimated to be about 1,316,000 acres or 52 percent of the total. Present or additional water-service agencies will have to meet the demands of this future development. An additional 158,000 acres of tideland are susceptible of reclamation and would use approximately 380,000 acre-feet of water annually. Also included in the Bay Area are 47,000 acres of non-water-requiring lands which consist of powder storage areas, tank farms, and solar evaporation ponds for the production of salt.

Plate 3 shows the locations of the present urban, agricultural, military, and salt-pond areas and the areas considered to be urbanized at time of ultimate development.

Local Supplies

Pescadero Creek and San Gregorio Creek in San Mateo County are possible sources of water for the agricultural area along the ocean. The types of crops grown and the prevailing summer fogs in these areas make only limited irrigation necessary. Runoff at the gaging station on Pescadero Creek during the 2 years of record has been 66,920 and 31,900 acre-feet. Over a long period, it has been estimated that the runoff will average 40,000 acre-feet.

Additional surface storage, in conjunction with ground-water basins is feasible on upper Alameda Creek, San Antonio Creek, and Arroyo del Valle. Storage on upper Alameda Creek and San Antonio Creek could develop about 11,000 acre-feet, and about 9,000 acre-feet could be developed in the Livermore Valley by construction of a dam on Arroyo del Valle.

The East Bay Municipal Utility District plans to develop a reservoir of 4,300 acre-feet capacity on Pinole Creek by 1960. The dependable yield has been estimated at 3,000 acre-feet annually.

Reservoir sites capable of yielding additional surface-water supplies amounting to 6,000 to 10,000 acre-feet can be developed in the Napa Valley.

The possibility of developing additional surface water within the Bay Area in Sonoma County is poor; such projects would be costly or would yield small quantities of water. However, reservoirs yielding about 10,000 acre-feet annually could be developed in Sonoma Valley.

The Marin Municipal Water District has the Lower Lagunitas Project under construction in 1954. It will augment the present supply by about 10,000 acre-feet per year. The reclamation and utilization of sewage and waste waters are important considerations in densely populated areas such as those bordering San Francisco Bay. The dry-weather sewage flow in the San Francisco Bay Area during 1949 totaled about 210,000 acre-feet on the basis of data furnished by agencies operating sewage works. Most of this amount either receives or will receive primary treatment before it is discharged into the bay.

The feasibility of a project for the reclamation and utilization of sewage depends upon several factors. Reclaimed water of suitable mineral quality could be used directly for irrigation and by certain industries. However, in general, the demand would not be continuous; and the use of underground reservoirs for regulatory purposes would allow the treatment plants to operate at capacity. The reclaimed water should possess a mineral quality at least comparable with that of local ground-water supplies so that prolonged use of such water for irrigation will not result in the deterioration of the chemical quality of the local supplies. The feasibility would also depend on the cost of the delivered water, comparing favorably with that of water at least equal in quantity and quality that could be obtained from another source. Also, the quantity and quality must be maintained at or above minimum requirements to assure a dependable water supply.

Sewage treatment has no appreciable effect on the dissolved mineral quality of water which is an important factor when water is used for irrigation. The only practical methods now known to lower the mineral concentrations are dilution with water of better quality, or elimination of the contamination at its source.

Each individual sewage reclamation project should be considered separately, and detailed studies will be necessary before its feasibility is or is not established. Ultimately these sources of water will be investigated.

Imported Supplies

Several proposals for the importation of additional water to the San Francisco Bay Area have been made. Some of these systems are under construction; some are in the authorized or advanced planning stage; and others are still being studied without any definite plans as of 1954.

The city of San Francisco plans to enlarge its present development to meet increased demands for many years. An expanded Hetch Hetchy system plus the present local resources will give a combined yield of about 500,000 acre-feet per year, or more than three times the 1950 demand.

The East Bay Municipal Utility District, which currently imports about 115,000 acre-feet annually from its Mokelumne River Project, can enlarge that project from its present capacity of 175,000 acre-feet to 224,000 acre-feet per year. A new application now on file with the State of California requests rights to an additional 140,000 acre-feet per year from the Mokelumne River. The total yield of the project would then be 364,000 acre-feet per year or more than three times the 1950 demand upon it.

In 1953 the Contra Costa Canal delivered about 33,000 acre-feet to the San Francisco Bay Area. This is only 17 percent of the ultimate capacity of the canal where it enters the area. For comparative purposes, this canal ultimately would be able to meet the present urban demand for water in San Francisco, San Mateo, and Alameda Counties.

The U. S. Bureau of Reclamation has made a preliminary report on the feasibility and cost of supplying water from the Contra Costa Canal to the area near Richmond. In that report, it was estimated that about 20,000 acre-feet per year could be made available at a cost of about \$30 per acre-foot, not including distribution and treatment costs.

Under construction in 1954 and scheduled for completion in 1958 is the Solano or Monticello Project of the U. S. Bureau of Reclamation. Its main feature is a dam that forms a storage reservoir across Putah Creek west of the town of Winters. A diversion dam a short distance downstream from the storage reservoir and a canal serving the area from north of Dixon to west of Cordelia are also parts of the project (plate 5) which together with coordinated operation of ground-water basins will provide water for irrigation of about 56,000 acres of new land and about 19,000 acres of land requiring supplemental water, and will also provide about 27,000 acre-feet of water for municipal and industrial uses in the vicinity of Fairfield and Benicia. A large portion of these uses will be outside the San Francisco Bay Area. Anticipated charges for water at the diversion dam on Putah Creek are \$2.65 and \$15.00 per acre-foot for irrigation and municipal water, respectively. Distribution costs from that point will be additional.

As part of the California Water Plan, the State Water Resources Board has proposed the Feather River Project and is making detailed investigations. A feature of this development is the Santa Clara-Alameda diversion which involves two pumping plants with a total lift of 722 feet, canal, tunnels, aqueducts and terminal storage reservoirs. Water would be diverted from the Sacramento-San Joaquin Delta through Old River and Italian Slough and be distributed in Livermore Valley, southern Alameda County and Santa Clara County. (See plate 5.) The present proposal calls for an annual diversion of 127,000 acre-feet from the delta to the Santa Clara-Alameda area. This feature of the Feather River Project could be built before the construction of the Oroville Dam on the Feather River, to utilize surplus water from the delta.

Other proposals under preliminary study are:

(a) Transmountain diversions from streams in Santa Cruz County to the Santa Clara Valley.

(b) Several elaborate but physically feasible plans to bring large quantities of Eel River water into the counties in the northern part of the San Francisco Bay Area are under consideration. One such plan envisions reservoirs on Middle and South Forks of Eel River with diversions to the Russian River basin in Potter Valley, a powerhouse, pumping plants, conduits, and a terminal storage reservoir near Novato.

(c) Barriers across the bays are most involved proposals, because they encompass, among other factors, problems of transportation, sedimentation, pollution, fisheries, navigation, and salinity control, the maintenance and preservation of existing levees and farmland in the delta, the amount of outflow from the delta, and the effect upon the operation of the Central Valley Project. In general, these plans call for earth and rock fill dams across the bay to impound the fresh water now discharging into the bay and ocean, thus forming large fresh water lakes adjacent to present industrial areas and future reclaimed lands.

The north bay barrier has been proposed at various sites between Point San Quentin-Richmond and Chippis Island near Pittsburg. The south bay barrier sites are from just south of the San Francisco-Oakland Bay Bridge to Candlestick Point-Bay Farm Island. Some of the plans include a fresh water ship channel along the east shore of the bay which would connect the two fresh water lakes.

The outflow from the Sacramento-San Joaquin Delta is not known reliably. Most studies have estimated the outflow, which is the fresh water available to this project, by indirect methods. The California Division of Water Resources made a 17-day tidal cycle measurement of the outflow in September 1954. Studies of methods that will result in a record of daily outflow are being made.

The effect of a north bay barrier upon the operation of the Central Valley Project is under investigation. The Central Valley Project requires the transfer of Sacramento River water across the delta to San Joaquin River delta channels where the water is pumped into the Delta-Mendota Canal for irrigation in the San Joaquin Valley.

The proposed Feather River Project would also transfer water across the delta and pump it into canals for distribution in the San Joaquin Valley, southern California, southern Alameda County, and Santa Clara Valley, the latter two localities being in the San Francisco Bay Area.

The feasibility of construction of one or both of the barriers will depend upon whether present and future investigations can ascertain that construction of one or more barriers will actually conserve a large supply of usable water and that all the interrelated problems mentioned above can be resolved.

WATER LAWS

Under California law both riparian and appropriative rights are recognized in water of surface streams and also "subterranean streams flowing in definite channels." The principles of riparian and appropriative

rights are diametrically opposed to each other. A riparian right is based on ownership of land contiguous to a stream. Under riparian rights the owner of land adjacent to a stream is entitled to use the full natural flow, undiminished in quantity and unchanged in quality. However, a California constitutional amendment of 1928 imposed reasonable use upon riparian rights. This amendment limits riparian and other rights in watercourses to the portion of the flow useful for reasonable and beneficial purposes under reasonable methods of diversion. Where supply is insufficient, all landowners with equal rights are entitled to a fair and reasonable share of the available water. Courts have power to determine and regulate these shares from the evidence.

✓ An appropriative right is based on appropriation and use of unclaimed water that is declared to belong to the public. All water in California is declared to be the property of the people of the State and available for beneficial use. This water can be claimed by riparian right or by appropriation. The water right by appropriation is restricted to water used beneficially, and is forfeited if the water is allowed to go unused for a specified period of time. ✓ The other important feature of an appropriative right is that he who is first in time is first in right; during periods of water shortage the later appropriators must forfeit their use in reverse order of priority.

The present Water Commission Act of California was enacted in 1913, and as amended from time to time, is in force today. It provides for permits "for any unappropriated water, or for water which having been appropriated or used flows back into a stream, lake or other body of water within this State."

Administration of the 1913 Water Commission Act was vested in the State Water Commission, whose functions are now performed by the Division of Water Resources of the Department of Public Works, the State Engineer being chief of the division. A right to appropriate water is initiated by application to the chief of the division for a permit to appropriate. The statute provides that this is the only acceptable procedure.

The Water Commission Act provides also for the determination of rights acquired under the act and for the distribution of water. The Division of Water Resources may make determinations on petitions of one or more claimants to the use of water of any stream system, including both appropriative and riparian rights, the order and record of determinations to be filed in court as the basis of an adjudication. The courts also, in their discretion, may refer to the Division, as referee, suits brought for the adjudication of water rights, subject to review, and the Division may act as master or referee when requested by a Federal court.

Ground water not shown to be flowing in a "definite underground stream" is presumed to be percolating. Court decisions have established the doctrine of correlative rights in dealing with percolating ground water. The doctrine of correlative rights of landowners overlying percolating waters is comparable in many respects to the rule of reasonable use applied to the doctrine of riparian rights of owners of land contiguous to streams. The courts have ruled that the rights of all landowners in a ground-water basin are coequal or correlative, and that one landowner cannot pump more than his share where the rights of others are damaged. The owner's

share is determined on the basis of reasonable use under the circumstances.

The right of an owner of overlying land to the use of percolating waters on his land is paramount to that of an appropriator who takes from the same ground-water source for distant use. However, such appropriator may take any surplus above the reasonable, beneficial needs of such overlying lands. Rights to percolating waters may be acquired by prescription against the rights of owners of overlying lands who fail to protect such rights.

The constitutional amendment of 1928 has been upheld as a new State policy bringing all water users under the rule of reasonableness. This applies to all water rights, whether based on the riparian right, or the analogous right of the owner of overlying land, or the percolating water right, or the appropriative right. Thus rights to all waters, surface and underground, which form part of a common supply, are correlated under the modified common law doctrines of ownership and use, upon which the doctrine of appropriation is superimposed; all subject to the test of reasonable, beneficial use.

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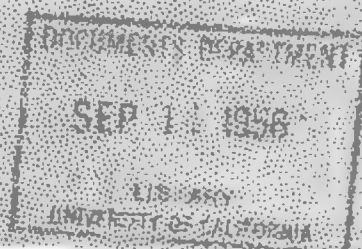
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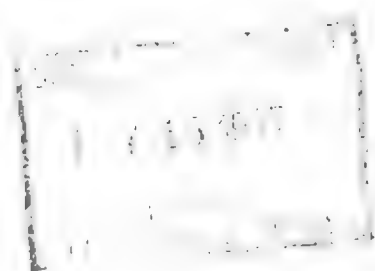
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GEOLOGICAL SURVEY CIRCULAR 379



REPORTS AND MAPS OF
THE GEOLOGICAL SURVEY
RELEASED ONLY IN THE
OPEN FILES, 1955



UNITED STATES DEPARTMENT OF THE INTERIOR

Douglas McKay, Secretary

GEOLOGICAL SURVEY

Thomas B. Nolan, Director

GEOLOGICAL SURVEY CIRCULAR 379

REPORTS AND MAPS OF THE GEOLOGICAL SURVEY
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Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

REPORTS AND MAPS OF THE GEOLOGICAL SURVEY

RELEASED ONLY IN THE OPEN FILES, 1955

By Benton M. Wilmoth, Jr., Lois E. Randall, and Arthur Johnson

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INTRODUCTION

This circular contains a list of the maps and reports released by the Geological Survey in 1955 that are available only in open files. They may be consulted in the Geological Survey Library, in Washington, D. C., and at various field offices, the addresses of which are given immediately after the date of the report. They may also be read at the offices of various cooperating agencies, as indicated.

The following circulars list open-file reports and maps released during the years indicated: 56 (1946-47), 64 (1948), 149 (1949-50), 227 (1951), 263 (1952), 337 (1953), and 364 (1954).

Most of the maps were duplicated by rapid and inexpensive processes, such as photostat, vandyke, or ozalid, but some were printed by photolithography. Most of the texts for the reports are typed copies (ribbon or carbon copy), but some have been mimeographed. A few of these reports and maps were made available in limited quantities for distribution, as indicated in the list, and these may be obtained as long as the supply lasts.

The reports of the Conservation Division concern the potential waterpower of Grant, Ptarmigan, Cooper, and Crescent Lakes on the Kenai Peninsula near Seward, Alaska and the geology of waterpower sites on Scenery, Cascade, and Delta Creeks near Petersburg, Alaska.

The reports and maps of the Geologic Division contain results of work accomplished by Survey geologists in 21 States, Alaska, Canada, and Bolivia. These maps and reports are released in preliminary form in order to make information immediately available to persons concerned with exploration for and production of minerals, fuels, and construction materials.

The reports of the Water Resources Division contain information on streamflow, ground water, quality of water, and related geology and hydrology in the United States, Alaska, and Puerto Rico.

A general index follows, in which the reader is referred to a report by its serial number as listed in the following list of reports, which are arranged alphabetically by names of the authors.

MAPS AND REPORTS

1. Armstrong, C. A., Memorandum on the post-Paleocene subsurface stratigraphy of Memphis, Tenn.: 12 p., 3 pls. February 17, 1955. Geological Survey, Memphis General Depot, U. S. Army, Memphis, Tenn.; 1242-G General Services Building, Washington, D. C.
2. Armstrong, F. C., and Weis, P. L., The Garm-Lamoreaux mine, Lemhi County, Idaho: 10 p., 2 figs., 1 table. July 22, 1955. 724 Appraisers Bldg., San Francisco, Calif.; 630 Sansome St., San Francisco, Calif.; South 157 Howard St., Spokane, Wash.; Office of the Director, Montana Bureau of Mines and Geology, Montana School of Mines, Butte, Mont.; Office of the Director, Idaho Bureau of Mines and Geology, University of Idaho, Moscow, Idaho.
3. Baker, D. R., Geology of the Edison area, Sussex County, N. J.: 275 p., 18 figs., 20 pls., 24 tables. Dec. 6, 1955.
4. Barksdale, H. C., Progress and future of the ground-water investigations in the lower Delaware River Basin: 2 p., September 30, 1955. 432 Federal Bldg., Trenton, N. J.; 1242-G General Services Bldg., Washington, D. C.
5. Barnes, F. F., Notes on a coal deposit on the Beluga River, Alaska: 7 p., 3 figs. June 15, 1955. Brooks Memorial Mines Bldg., College, Alaska; 117 Federal Bldg., Juneau, Alaska; 4 Homewood Place, Menlo Park, Calif.; South 157 Howard St., Spokane, Wash.; 468 New Customhouse, Denver, Colo.; 807 Post Office and Courthouse, Los Angeles, Calif.; 724 Appraisers Bldg., San Francisco, Calif.; 210 E. F. Glover Bldg., Anchorage, Alaska; Territorial Department of Mines, Territorial Bldg., Juneau, Alaska.

6. Barnes, F. F., Subsurface exploration for stripping coal on Lower Deep Creek, Homer district, Kenai coal field, Alaska: 9 p., 4 pls., 1 fig. May 23, 1955. Brooks Memorial Mines Bldg., College, Alaska; 117 Federal Bldg., Juneau, Alaska; 4 Homewood Place, Menlo Park, Calif.; South 157 Howard St., Spokane, Wash.; 488 New Customhouse, Denver, Colo.; 807 Post Office and Courthouse, Los Angeles, Calif.; 724 Appraisers Bldg., San Francisco, Calif.; Territorial Dept. of Mines, Territorial Bldg., Juneau, Alaska.
7. Barnes, F. F., Subsurface exploration in the Little Susitna district, Matanuska coal field, Alaska: 29 p., 8 pls., 1 fig. May 23, 1955. Brooks Memorial Mines Bldg., College, Alaska; 117 Federal Bldg., Juneau, Alaska; 4 Homewood Place, Menlo Park, Calif.; South 157 Howard St., Spokane, Wash.; 488 New Customhouse, Denver, Colo.; 807 Post Office and Courthouse, Los Angeles, Calif.; 724 Appraisers Bldg., San Francisco, Calif.; Territorial Department of Mines, Territorial Bldg., Juneau, Alaska.
8. Bell, Henry, and Post, E. V., Preliminary geologic map of east-central part of the Flint Hill quadrangle, Fall River County, S. Dak.: 1 map. Jan. 19, 1955. Grand Junction, Colo.; 315 Federal Bldg., Billings, Mont.; 488 New Customhouse, Denver, Colo.; 504 Federal Bldg., Salt Lake City, Utah; Office of the State Geologist, State Geological Survey, State University, Vermillion, S. Dak.; U. S. Atomic Energy Commission Office, Bldg. 40, Denver Federal Center, Denver, Colo.; U. S. Atomic Energy Commission Office, Evans Hotel Annex, Hot Springs, S. Dak.
9. Bell, Henry, and Post, E. V., Preliminary geologic map of NW part of the Flint Hill quadrangle, Fall River County, S. Dak.: 1 map. Jan. 19, 1955. Grand Junction, Colo.; 315 Federal Bldg., Billings, Mont.; 488 New Customhouse, Denver, Colo.; 504 Federal Bldg., Salt Lake City, Utah; Office of the State Geologist, State Geological Survey, State University, Vermillion, S. Dak.; U. S. Atomic Energy Commission Office, Bldg. 40, Denver Federal Center, Denver, Colo.; U. S. Atomic Energy Commission Office, Evans Hotel Annex, Hot Springs, S. Dak.
10. Bennett, H. S., Photogeologic map, Elk Ridge-10 quadrangle, San Juan County, Utah: 1 map. Jan. 14, 1955. 504 Federal Bldg., Salt Lake City, Utah; 488 New Customhouse, Denver, Colo.; Grand Junction, Colo.
11. Bennett, H. S., Photogeologic map, Elk Ridge-15 quadrangle, San Juan County, Utah: 1 map. Jan. 14, 1955. 504 Federal Bldg., Salt Lake City, Utah; 488 New Customhouse, Denver, Colo.; Grand Junction, Colo.
12. Bennett, H. S., Photogeologic map, Emery-7 quadrangle, Emery County, Utah: 1 map. Jan. 14, 1955. 504 Federal Bldg., Salt Lake City, Utah; 488 New Customhouse, Denver, Colo.; Grand Junction, Colo.
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14. Beroni, E. P., Maps showing radiometry and geochemical sampling done at Wilson's Prospect, Garland County, Ark.: 4 maps. Jan. 14, 1955. 504 Federal Bldg., Salt Lake City, Utah; 488 New Customhouse, Denver, Colo.; Office of the Director, Division of Geology, Arkansas Resources and Development Commission, Little Rock, Ark.
15. Berry, D. W., Reconnaissance of the geology and ground-water resources of the Cokeville area, Lincoln County, Wyo.: 11 p., 2 figs. March 17, 1955. 508 Rudge-Guenzel Bldg., Lincoln, Nebr.; 2002 Capitol Ave., Cheyenne, Wyo.; 1242-G General Services Bldg., Washington, D. C.
16. Bradley, Edward, Preliminary report on the investigation of ground-water resources of the seacoast region of New Hampshire: 33 p., 3 pls., 3 figs. June 13, 1955. Geological Survey, Durham, N. H.; 1242-G General Services Bldg., Washington, D. C.
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19. Brown, Eugene, and Crooks, J. W., Chemical character of surface waters in the central and southern Florida flood control district: 13 p., 5 figs. May 6, 1955. Bldg. 211, Roosevelt Village, Ocala, Fla.
20. Brown, S. G., Capacity test of the Frank Suppah well, Schoelle Flat, Warm Springs Indian Reservation, Oreg.: 8 p., 1 pl. December 29, 1955. 1001 NE Lloyd Blvd., Portland, Oreg.; 1242-G General Services Bldg., Washington, D. C.
21. Burnham, W. L., Data on water wells in Coyote, Cronise, Soda, and Silver Lake Valleys, San Bernardino County, Calif.: 48 p., 1 pl. April 4, 1955. 221 Redondo Ave., Long Beach, Calif.; 2520 Marconi Ave., Sacramento, Calif.; 1242-G General Services Bldg., Washington, D. C.
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23. Cady, W. M., and Wallace, R. E., Surface and underground geologic map and sections of the Red Devil mine, Sleetmute area, central Kuskokwim region, Alaska: 1 map. Feb. 11, 1955. 210 E. F. Glover Bldg., Anchorage, Alaska; 724 Appraisers Bldg., San Francisco, Calif.; Brooks Memorial Mines Bldg., College, Alaska; 117 Federal Bldg., Juneau, Alaska; 4 Homewood Place, Menlo Park, Calif.; South 157 Howard St., Spokane, Wash.; 4224 General Services Administration Bldg., Washington, D. C.; Territorial Dept. of Mines, Territorial Bldg., Juneau, Alaska.
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28. Coates, D. R., Memorandum on the geology and ground-water resources of Dripping Springs basin, Gila and Pinal Counties, Ariz.: 14 p., 1 pl., 2 figs. April 28, 1955. 136 N. Park Ave., Tucson, Ariz.; 1242-G General Services Bldg., Washington, D. C.
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32. Crandall, Lynn, New storage on Snake River for irrigation use above Milner, Idaho: 4 p. May 25, 1955. 204-5 Federal Bldg., Idaho Falls, Idaho; 429 Federal Bldg., Boise, Idaho; 2238 General Services Bldg., Washington, D. C.
33. Currier, L. W., Gravel and sand resources of the New England-New York region: 23 p. Mar. 16, 1955. 270 Dartmouth St., Boston, Mass.
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35. Cushman, R. V., Statement on ground water in Connecticut: 7 p., 1 fig. January 30, 1955. Post Office Bldg., Room 1, Middletown, Conn.; 1242-G General Services Bldg., Washington, D. C.
36. Davis, L. V., Ground-water investigations in Oklahoma: 4 p., 9 figs. December 1, 1955. c/o Oklahoma Geological Survey, Norman, Okla.; 1242-G General Services Bldg., Washington, D. C.
37. Deiss, C. F., Compilation copy of geologic map of part of the Saypo quadrangle, Mont.: 1 map. Oct. 24, 1955. Office of the State Geologist, Indiana Geological Survey, Bloomington, Ind.
38. Dempsey, W. J., Total-intensity aeromagnetic map of the Laramie Range area, Albany County, Wyo.: 1 map. Feb. 23, 1955. 724 Appraisers Bldg., San Francisco, Calif.; 468 New Customhouse, Denver, Colo.; 504 Federal Bldg., Salt Lake City, Utah; Geological Survey and Wyoming Geological Survey offices, Geology Hall, University of Wyoming, Laramie, Wyo.
39. Dempsey, W. J., and others, Aeromagnetic profiles of the Rochester-Berwick area, Berwick and Alton quadrangles, N. H. and Maine: 1 map. Feb. 7, 1955. Room 1, 270 Dartmouth St., Boston, Mass.; New Hampshire State Planning and Development Commission, State Office Bldg., Concord, N. H.; 112 Conant Hall, University of New Hampshire, Durham, N. H.; Office of the State Geologist, Maine Geological Survey, University of Maine, Orono, Maine.
40. Detterman, J. S., Photogeologic map, Emery-2 quadrangle, Emery County, Utah: 1 map. Jan. 14, 1955. 504 Federal Bldg., 468 New Customhouse, Denver, Colo.; Grand Junction, Colo.
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42. Dobrovolsky, Ernest, Preliminary report on the geology of the upper La Paz Valley of Bolivia: 32 p., 1 pl., 6 figs. July 22, 1955.

43. Dunlap, J. C., Barite-fluorite deposits in the eastern belt of the Sweetwater barite district, Monroe County, Tenn.—a memorandum report: 12 p., 1 map. July 22, 1955. Office of the State Geologist, Division of Geology, Department of Conservation, G-5 State Office Bldg., Nashville, Tenn.; 13 Post Office Bldg., Knoxville, Tenn.
44. Dutcher, L. C., Possibilities for developing productive water wells at the Veterans' Administration Hospital, Sepulveda, Calif.: 16 p. March 26, 1955. 221 Redondo Ave., Long Beach, Calif.; 2520 Marconi Ave., Sacramento, Calif.; 1242-G General Services Bldg., Washington, D. C.
45. Fix, P. F., Preliminary report on part of the Oat Hill quicksilver mine, Mayacmas district, Napa County, Calif.: 18 p., 3 figs. Oct. 24, 1955. 724 Appraisers Bldg., San Francisco, Calif.; 630 Sansome St., San Francisco, Calif.; 807 Post Office and Courthouse Bldg., Los Angeles, Calif.; California Division of Mines, Ferry Bldg., San Francisco, Calif.
46. Gard, L. M., Jr., Engineering geology as applied to highway construction: 40 p., 2 figs., 63 pls. June 13, 1955. 468 New Customhouse, Denver, Colo.
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49. Gott, G. B., Structure contours on top of the Lower Lakota sandstone, SE corner of the Edgemont NE quadrangle, Fall River County, S. Dak.: 1 map. Jan. 19, 1955. Grand Junction, Colo.; 315 Federal Bldg., Billings, Mont.; 468 New Customhouse, Denver, Colo.; 504 Federal Bldg., Salt Lake City, Utah; Office of the State Geologist, State Geological Survey, State University, Vermillion, S. Dak.; U. S. Atomic Energy Commission Office, Bldg. 40, Denver Federal Center, Denver, Colo.; U. S. Atomic Energy Commission Office, Evans Hotel Annex, Hot Springs, S. Dak.
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52. Green, J. H., Partial bibliography of land-surface subsidence: 28 p. November 10, 1955. 2520 Marconi Ave., Sacramento, Calif.; 1242-G General Services Bldg., Washington, D. C.
53. Griffin, M. S., Bibliography of technical reports, articles, and memoranda published or otherwise released by the Ground Water Branch during the calendar year 1954: 28 p., 1955. 1242-G General Services Bldg., Washington, D. C.
54. Hackman, R. J., Photogeologic map, Circle Cliffs-12 quadrangle, Garfield County, Utah: 1 map. Jan. 14, 1955. 504 Federal Bldg., Salt Lake City, Utah; 468 New Customhouse, Denver, Colo.; Grand Junction, Colo.
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57. Hardison, C. H., and Hackett, O. M., Water supplies for irrigation in the Northeast: 9 p., 2 pl. August 15, 1955. 927 Post Office Bldg., Boston, Mass.; 2238 General Services Bldg., Washington, D. C.
58. Harshbarger, J. W., and others, Geologic maps of 28 quadrangles in west-central quarter of Navajo Country (including 4 quads prepared by Fuels Branch): March 15, 1955. Geological Survey, Holbrook, Ariz.; 136 N. Park Ave., Tucson, Ariz.; 1242-G General Services Bldg., Washington, D. C.
59. Hart, D. H., and Newcomb, R. C., Preliminary report on the ground-water resources of the Tualatin Valley, Oreg.: 165 p., 45 pls. December 23, 1955. 1001 NE Lloyd Blvd., Portland, Oreg.; 1242-G General Services Bldg., Washington, D. C.
60. Hartshorn, J. H., Geologic strip map along Route 28 in the Taunton and Bridgewater quadrangles, Mass.: 3 p., 1 map. June 13, 1955. Room 1, 270 Dartmouth St., Boston, Mass.

61. Hartshorn, J. H., Glacial geology of the Taunton quadrangle, Mass.: 160 p., 2 maps, 38 figs., 13 tables. Aug. 31, 1955. Room 1, 270 Dartmouth St., Boston, Mass.
62. Hartshorn, J. H., and Hanshaw, P. M. (compilation), Jahns, R. H., and others (geology), Surficial geologic map of proposed route 3 from Lowell, Mass., to the New Hampshire State line: 1 map, 1 explanation. Oct. 24, 1955. Room 1, 270 Dartmouth St., Boston, Mass.
63. Heindl, L. A., Ground-water conditions between Oracle and Oracle Junction, Pinal County, Ariz.: 5 p., 1 fig. A supplement to Memorandum on geology and ground-water resources in the vicinity of Oracle, Pinal County, Ariz. February 11, 1955. 136 N. Park Ave., Tucson, Ariz.; 1242-G General Services Bldg., Washington, D. C.
64. Heindl, L. A., Memorandum on geology and ground-water resources in the vicinity of Oracle, Pinal County, Ariz.: 14 p., 2 figs. February 11, 1955. 136 N. Park Ave., Tucson, Ariz.; 1242-G General Services Bldg., Washington, D. C.
65. Herrick, S. M., and Wait, R. L., Interim report on results of test drilling in the Savannah area, Georgia and South Carolina: 41 p., 9 pls. June 2, 1955. 210 Creason Bldg., Columbia, S. C.; 11 Hunter St., Atlanta, Ga.; 1242-G General Services Bldg., Washington, D. C.
66. Hofmann, Walter, Sixth progress report on the cooperative investigation of springs and stream-flow in the Tecolote Tunnel area of Santa Barbara County, Calif.: 170 p., 2 figs., 1 map. July 6, 1955. 429-F U. S. Post Office and Court House Bldg., Los Angeles, Calif.; 541 Federal Office Bldg., San Francisco, Calif.; 2238 General Services Bldg., Washington, D. C.
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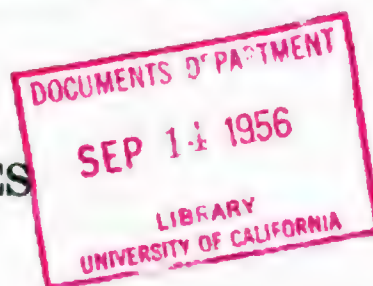
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GEOLOGICAL SURVEY CIRCULAR 380



FLOODS OF
DECEMBER 1955-JANUARY 1956
IN FAR-WESTERN STATES

PEAK DISCHARGES



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 380

FLOODS OF DECEMBER 1955-JANUARY 1956 IN FAR-WESTERN STATES

PEAK DISCHARGES

Prepared by Water Resources Division
Surface Water Branch

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

FLOODS OF DECEMBER 1955-JANUARY 1956 IN FAR-WESTERN STATES

PEAK DISCHARGES

Prepared by Water Resources Division
Surface Water Branch

Record-breaking floods occurred in California, the western parts of Nevada, Oregon, and Idaho, and scattered basins in southern Washington during the last part of December 1955 and in January 1956. Areas experiencing major flooding are shown on the map, page 2. Flood descriptions, by States, are briefly as follows:

California.--An area extending from the southern end of the Central Valley northward along the coast and inland to Nevada was flooded between December 18 and 26, following a succession of severe rainstorms. Rain extending into areas of unusually high elevation caused melting of snow in areas of low elevation. Flood volumes as well as peak discharges were high. Moderate floods occurred during the period January 14-16 in the northern part of the State and about January 25 in the southern part. A few flood peaks exceeded those of December, but at most places the floods were not excessive.

Nevada.--Floods in the Sierra Nevada region occurred about December 23, owing to heavy rains extending into areas of high altitude. High discharges were experienced in the Carson, Truckee, and Walker River basins. January storms extended into the Humboldt and other basins, but flood peaks were not record breaking.

Oregon.--Heavy rains and warm weather caused severe floods between December 21-23 and again on December 26. Floods were most severe in southwestern Oregon, where discharges were record high, and northwestern Oregon, where discharges were of record or near-record magnitude. Other floods occurred about January 4, 15, and 22, some of which were in eastern Oregon in areas which had largely escaped the floods of December.

Washington.--Flooding was general in the southern and southeastern parts of the State December 21-26 but was not record breaking although the runoff was very high. Little flooding occurred during January.

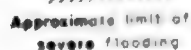
Idaho.--Unusual floods in western-central Idaho occurred on December 22-23 owing to heavy rains which followed snow and were accompanied by unseasonably high temperatures. Highest floods occurred in Payette and Weiser River basins. During January, streams in southern Idaho were at high levels.

Peak discharges that occurred in the flood areas are presented in the following table. The Geological Survey will publish a comprehensive report of the floods at a later date.

Information presented in the following table is (1) a location number, for use with map on page 2; (2) name of stream and place of determination of discharge; (3) drainage area, where known; (4) period during which a systematic and continuous record of stage and discharge has been kept; (5) the maximum discharge previously recorded; and (6) for the December 1955-January 1956 floods, the day of the peak, the peak stage, and the peak discharge and peak discharge per square mile.

Maximum discharges were determined by means of current-meter measurements, by an extension of stage-discharge rating curves, or by slope-area, contracted-opening, flow over dam, or other indirect methods. Indirect measurements, based on field surveys made after the floods, were made by personnel of the Geological Survey assisted by employees of the States, the Corps of Engineers, U. S. Army, and the U. S. Bureau of Reclamation.

This tabulation of maximum discharges of the floods of December 1955-January 1956 was prepared by the staff of the Surface Water Branch, Water Resources Division, U. S. Geological Survey, under the general direction of Tate Dalrymple, chief, Technical Standards Section. Most of the basic data were collected in financial cooperation with public agencies, under the direction of the following Survey district engineers: California, R. C. Briggs; Nevada, M. T. Wilson; Oregon, K. N. Phillips; Washington, F. M. Veatch; and Idaho, T. R. Newell. Fieldwork and processing of data were supervised by Walter Hofmann, area staff engineer. During the floods, hydraulic engineers from all sections of the country were detailed to the flooded area to assist in gathering data.



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Maximum stages and discharges on streams in far-Western States

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1905-January 1956			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq mi
<u>Walker Lake Basin</u>								
1	Summers Creek near Bridgeport, Calif -----	12.6	1953-56	-----	Dec. 23	5.96	691	54.8
2	Sugar Creek near Bridgeport, Calif -----	53.0	1903-56	-----	Dec. 23	6.24	585	11.0
3	East Walker River above Stromsider ditch, near Mason, Nev -----	-----	1947-56	1,400	Dec. 23	6.67	1,640	-----
4	East Fork West Walker River near Bridgeport, Calif -----	63	1910; 1944-56	680	Dec. 23	2.80	765	12.1
5	West Walker River below East Fork, near Coleville, Calif -----	182	1938-56	6,220	Dec. 23	7.41	5,100	28.5
6	West Walker River near Hudson, Nev -----	964	1914-35; 1947-56	2,530	-----	7.42	2,450	2.5
<u>Rimboldt-Carson Sink Basin</u>								
7	Marbleville Creek above Overer Hot Springs, near Marbleville, Calif -----	14	1946-56	1,740	-----	7.36	900	64.3
8	East Fork Carson River near Gardnerville, Nev -----	344	1890-93; 1900-06; 1900-10; 1917; 1924-29; 1936-37; 1938-56	12,100	Dec. 23	11.08	17,600	51.2
9	West Fork Carson River at Woodfords, Calif -----	66	1900-07; 1910-11; 1938-56	4,730	Dec. 23	8.86	4,810	72.9
10	Carson River near Carson City, Nev -----	875	1939-56	16,500	Dec. 23	15.0	30,000	34.2
<u>Pyramid and Winnemucca Lakes Basin</u>								
11	Truckee River near Truckee, Calif -----	^b 566	1944-56	6,480	Dec. 23	7.92	^a 7,010	15.2
12	Truckee River at Parad, Calif -----	^b 940	1938-43	^c 17,500	Dec. 23	-----	14,400	15.3
13	Truckee River at Reno, Nev -----	^b 1,070	1906-19; 1947-56	19,900	Dec. 23	13.53	20,800	19.5
<u>Black Rock Desert Basin</u>								
14	East Fork Quinn River near McDermitt, Nev -----	-----	1948-56	940	Jan. 15	8.52	1,380	-----
<u>Honey Lake Basin</u>								
15	Susan River at Susanville, Calif -----	192	1917-21; 1950-56	2,890	Dec. 23	6.58	3,540	18.4
16	Willow Creek near Susanville, Calif -----	92.5	1950-56	626	Dec. 23	5.36	712	7.70
17	Pino Creek near Westwood, Calif -----	22.6	1950-56	154	Dec. 23	3.96	169	7.48
<u>Warner Lakes Basin</u>								
18	Twentymile Creek near Adel, Oreg -----	^d 194	1910-16; 1917-19; 1940-44; 1945-56	3,000	Dec. 23	14.8	^a 3,320	17.1
19	Comas Creek near Lakeview, Oreg -----	63	1912-14; 1944-56	680	Dec. 22	5.15	^a 1,630	25.9
20	Drake Creek near Adel, Oreg -----	47	1915; 1922-23; 1944-56	866	Dec. 23	3.93	1,100	23.4
21	Deep Creek above Adel, Oreg -----	249	1922-23; 1929-56	5,030	Dec. 23	7.2	^a 4,540	18.2
<u>Abert Lake Basin</u>								
22	Chesawcan River above Conn ditch, near Paisley, Oreg -----	275	1912-21; 1924-56	^c 4,000	Dec. 22	7.8	^a 3,260	11.9
<u>Silver Lake Basin</u>								
23	Silver Creek near Silver Lake, Oreg -----	221	1905-07; 1909-56	1,800	Dec. 22	7.4	^a 970	4.39
<u>Arroyo De La Cruz Basin</u>								
24	Arroyo de la Cruz near San Simeon, Calif -----	41.4	1950-56	11,600	Dec. 23	12.40	17,700	428
25	Sur River at Big Sur, Calif -----	46.9	1950-56	7,000	Dec. 23	11.06	5,220	111
<u>Carmel River Basin</u>								
26	Carmel River near Carmel Valley, Calif -----	188	-----	-----	Dec. 23	-----	6,930	36.9
<u>Salinas River Basin</u>								
27	Salinas River near Pozo, Calif -----	72.5	1942-56	5,800	Jan. 25	10.66	4,090	56.4
28	Salinas River above Pilitas Creek, near Santa Margarita, Calif -----	112	1942-56	^a 2,200	Jan. 27	2.90	^a 625	5.56
29	Jack Creek near Templeton, Calif -----	26.4	1949-56	3,090	Jan. 26	9.56	5,040	198
30	Salinas River at Paso Robles, Calif -----	389	1939-56	^a 14,200	Jan. 26	16.73	^a 12,000	30.8
31	Estrella Creek near Estrella, Calif -----	-----	1964-56	-----	Jan. 26	3.92	1,310	-----
32	Haciemento River near Bryson, Calif -----	140	1955-56	-----	Dec. 23	24.63	30,300	216
33	Haciemento River near San Miguel, Calif -----	354	1975-56	53,100	Dec. 23	13.15	58,600	166
34	San Antonio River at Playto, Calif -----	282	1922; 1929-56	11,600	Dec. 23	5.04	14,500	51.4
35	Salinas River near Bradley, Calif -----	2,522	1948-56	^a 26,800	Dec. 24	12.01	^a 25,000	9.91
36	San Lorenzo Creek at King City, Calif -----	282	-----	-----	Dec. 23	-----	3,100	11.8
37	Arroyo Seco near Soledad, Calif -----	241	1901-56	^f 22,000	Dec. 23	14.30	27,700	115
38	Salinas River near Spreckels, Calif -----	4,231	1900-01; 1929-56	^a 75,000	Dec. 25	24.52	^a 23,600	6.58
<u>Pajaro River Basin</u>								
39	Pacheco Creek near Dunsmuir, Calif -----	146	1940-56	7,300	Dec. 23	18.6	^a 12,600	86.1
40	Llano Creek near Morgan Hill, Calif -----	19.6	1951-56	2,760	Dec. 23	3.39	363	18.2
41	Dras Creek near Morgan Hill, Calif -----	30.2	1930-56	6,630	Dec. 23	14.3	10,300	341
42	San Benito River below McCoy Creek near Hernandez, Calif -----	198	-----	-----	Dec. 24	-----	3,140	29.1
43	San Benito River near Willow Creek School, Calif -----	250	1975-56	6,200	Dec. 23	5.00	3,790	15.2
44	Tres Pinos Creek near Tres Pinos, Calif -----	205	1948-56	8,060	Dec. 23	6.90	4,750	22.7

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-Western States—Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1955-January 1956			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq. mi.
<u>Pajaro River Basin—Continued</u>								
45	San Benito River near Hollister, Calif. -----	586	1949-56 -----	5,490	Dec. 24	12.55	7,460	12.7
46	Pajaro River near Chittenden, Calif. -----	1,188	1939-56 -----	11,100	Dec. 24	32.46	24,000	20.2
47	Corralitos Creek near Watsonville, Calif. -----	27.1	-----	-----	Dec. 22	-----	3,620	134
<u>Sequel Creek Basin</u>								
48	Sequel Creek at Sequel, Calif. -----	40.4	1961-56 -----	4,910	Dec. 23	22.33	15,800	391
<u>San Lorenzo River Basin</u>								
49	San Lorenzo River at Big Trees, Calif. -----	110	1937-56 -----	24,000	Dec. 23	22.55	30,400	276
50	San Lorenzo River at Santa Cruz, Calif. -----	116	1952-56 -----	9,400	Dec. 23	23.10	30,400	262
51	Branchfort Creek at Santa Cruz, Calif. -----	18.5	1940-43; 1952-56 -----	3,910	Dec. 22	22.04	8,100	438
<u>Scott Creek Basin</u>								
52	Scott Creek near Davenport, Calif. -----	13.6	-----	-----	Dec. 23	-----	6,430	473
<u>Pescadero Creek Basin</u>								
53	Pescadero Creek near Pescadero, Calif. -----	46.2	1951-56 -----	5,440	Dec. 23	21.27	9,420	204
<u>Purissima Creek Basin</u>								
54	Purissima Creek near Half Moon Bay, Calif. -----	6.11	-----	-----	Dec. 22	-----	680	112
<u>San Francisco Creek Basin</u>								
55	San Francisco Creek at Stanford University, Calif. -----	35.7	1931-41; 1950-56 -----	3,660	Dec. 22	13.60	5,560	156
<u>Matadero Creek Basin</u>								
56	Matadero Creek at Palo Alto, Calif. -----	8.10	1952-56 -----	525	Dec. 22	9.60	854	105
<u>Stevens Creek Basin</u>								
57	Stevens Creek near Cupertino, Calif. -----	18.0	1930-56 -----	2,390	Dec. 23	8.25	1,420	78.9
<u>Quadelupe River Basin</u>								
58	Alamitos Creek near Edenvale, Calif. -----	35.0	1930-56 -----	2,670	Dec. 23	6.6	4,140	118
59	Quadelupe Creek at Quadelupe, Calif. -----	12.7	1930-56 -----	1,330	Dec. 22	4.20	1,320	104
60	Los Gatos Creek at Los Gatos, Calif. -----	38.9	1930-44; 1953-56 -----	7,110	Jan. 1	6.74	725	18.4
61	Quadelupe River at San Jose, Calif. -----	31	1930-56 -----	9,600	Dec. 23	13.94	5,740	43.8
62	Saratoga Creek at Saratoga, Calif. -----	8.8	1933-56 -----	1,660	Dec. 22	6.40	2,730	310
<u>Coyote Creek Basin</u>								
63	Coyote Creek near Madera, Calif. -----	194	1902-12; 1916-56 -----	25,000	Dec. 22	2.13	18	.09
64	Coyote Creek near Edenvale, Calif. -----	229	1916-56 -----	10,000	Dec. 23	5.02	1,610	7.03
<u>Alameda Creek Basin</u>								
65	San Antonio Creek near Sunol, Calif. -----	58.4	-----	-----	Dec. 23	-----	5,810	99.5
66	Arroyo Mocho near Livermore, Calif. -----	36.7	-----	-----	Dec. 23	-----	1,590	61.2
67	Arroyo del Valle near Livermore, Calif. -----	149	-----	-----	Dec. 23	-----	18,200	122
68	Arroyo de la Laguna near Pleasanton, Calif. -----	406	-----	-----	Dec. 23	-----	24,000	61.1
69	Alameda Creek near Myles, Calif. -----	633	1916-56 -----	18,500	Dec. 23	14.9	21,000	33.2
<u>San Lorenzo Creek Basin</u>								
70	San Lorenzo Creek at Hayward, Calif. -----	39.0	1940; 1946-56 -----	3,440	Dec. 23	20.82	4,790	126
<u>Pacheco Creek Basin</u>								
71	San Ramon Creek at San Ramon, Calif. -----	6.89	1952-56 -----	364	Dec. 22	14.2	1,380	229
72	San Ramon Creek at Walnut Creek, Calif. -----	50.7	1952-56 -----	2,200	Dec. 23	14.35	6,890	136
73	Walnut Creek at Walnut Creek, Calif. -----	78.1	1952-56 -----	6,911	Dec. 23	23.22	11,000	141
74	Galindo Creek at Concord, Calif. -----	6.16	-----	-----	Dec. 23	3.45	260	42.2
75	Pine Creek at Concord, Calif. -----	20.0	1952-56 -----	548	Dec. 23	9.35	901	47.2
76	Drayson Creek near Houston, Calif. -----	1.92	-----	-----	Dec. 23	4.72	415	216
<u>Kern River Basin</u>								
77	Kern River near Kernville, Calif. -----	845	1912-56 -----	27,000	Dec. 23	17.65	27,200	32.2
78	Kern River at Kernville, Calif. -----	1,026	1905-12; 1953-56 -----	10,400	Dec. 23	16.20	29,400	28.9
79	South Fork Kern River near Oryx, Calif. -----	530	1911-14; 1919-42; 1947-56 -----	3,450	Dec. 24	8.73	2,050	3.86
80	Isabella Reservoir near Isabella, Calif. -----	2,093	1953-56 -----	2,543.6	Jan. 31	2,543.25	-----	-----
81	Kern River below Isabella Dam, Calif. -----	2,094	1945-56 -----	39,000	Dec. 29	6.11	368	.17
82	Kern River near Democrat Springs, Calif. -----	2,264	1950-56 -----	40,000	Jan. 27	9.60	1,390	.61
83	Kern River below Kern Canyon powerhouse, Calif. -----	2,327	1950-56 -----	16,000	Jan. 27	9.35	2,140	.92
<u>Salas Lake Basin</u>								
84	North Fork of Middle Fork Tule River near Springville, Calif. -----	39.5	1930-56 -----	14,000	Dec. 23	12.47	18,400	314
85	Tule River near Porterville, Calif. -----	261	1901-56 -----	25,580	Dec. 23	11.80	24,200	92.8

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-Western States—Continued

Maximum stages and discharges on streams in far-Western States—Continued								
No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1966–January 1967			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq mi
Tulare Lake Basin—Continued								
86	South Fork Tule River near Success, Calif	109	1930-64; 1966	7,100	Jan. 26	9.04	3,100	28.4
87	Tule River at North Bridge, near Porterville, Calif	396	1963-66	3,110	Dec. 23	21.65	27,000	68.3
88	Middle Fork Kaweah River near Potwisha Camp, Calif	100	1949-56	¹ 15,70	Dec. 23	29.0	—	—
89	Marble Fork Kaweah River at Potwisha Camp, Calif	60.6	1960-66	4,000	Dec. 23	13.62	12,500	247
90	North Fork Kaweah River at Kaweah, Calif	128	1910-56	9,160	Dec. 23	14.1	21,500	168
91	Kaweah River near Three Rivers, Calif	520	1903-56	62,000	Dec. 23	22.24	80,700	155
92	Lime Kiln Creek near Lemon Cove, Calif	—	—	—	Dec. 23	—	5,070	—
93	Sand Creek near Orange Cove, Calif	32	1944-54	446	Dec. 23	4.81	749	23
94	Kings River above North Fork, Calif	966	1927-28; 1931-56	44,000	Dec. 23	16.26	69,100	61.8
96	North Fork Kings River near Cliff Camp, Calif	174	1921-56	14,000	Dec. 23	16.80	11,900	68.4
96	Kings River below North Fork, Calif	1,360	1961-56	20,300	Dec. 23	23.08	85,200	63.2
97	Big Creek above Pine Flat Reservoir, Calif	69.2	1963-56	1,400	Dec. 23	9.21	10,400	150
98	Sycamore Creek above Pine Flat Reservoir, Calif	56.5	1963-56	1,000	Dec. 24	9.78	6,760	120
99	Pine Flat Reservoir near Piedra, Calif	1,642	1961-56	² 36,500	Jan. 31	890.18	—	—
100	Kings River below Pine Flat Dam, Calif	1,642	1954-56	² 6,260	Jan. 31	2.67	² 248	—
101	Kings River at Piedra, Calif	1,694	1895-56	91,000	Dec. 23	8.69	² 9,390	6.83
102	Warthan Creek near Coalings, Calif	112	—	—	Dec. 23	—	783	6.99
103	Los Gatos Creek above Hunch Canyon near Coalings, Calif	96.6	1949-56	1,250	Dec. 23	3.09	592	6.20
San Joaquin River Basin								
104	South Fork San Joaquin River near Florence Lake, Calif	171	1921-56	² 4,320	Dec. 23	9.23	² 13	.08
105	Bear Creek near Vermilion Valley, Calif	53.5	1921-56	1,630	Dec. 23	6.62	1,330	24.8
106	Hono Creek near Vermilion Valley, Calif	92.0	1921-56	1,760	Dec. 23	6.26	² 372	4.04
107	San Joaquin River above Big Creek, Calif	1,042	1922-56	² 62,500	Dec. 23	24.75	² 63,000	60.5
108	Big Creek below Huntington Lake, Calif	80.0	1925-56	² 2,040	Dec. 23	3.15	² 45	.56
109	Pitman Creek below Tamarack Creek, Calif	22.0	1927-56	3,220	Dec. 23	11.20	3,670	167
110	San Joaquin River above Willow Creek, near Auberry, Calif	1,299	1951-56	² 15,100	Dec. 23	54.2	² 73,200	56.4
111	North Fork Willow Creek near Bass Lake, Calif	50.8	1940-56	² 947	Jan. 4	5.28	² 660	13.0
112	Willow Creek at mouth, near Auberry, Calif	130	1952-56	² 1,380	Dec. 23	28.5	² 12,000	9.25
113	San Joaquin River below Merckhoff powerhouse, Calif	1,480	1936-37; 1942-56	² 75,000	Dec. 23	51.0	² 92,200	62.3
114	Pine Gold Creek near Priant, Calif	92.0	1934-56	10,300	Dec. 23	17.94	7,450	80.2
115	Millerton Lake at Priant, Calif	1,633	1941-56	² 672.34	Dec. 28	667.41	—	—
116	San Joaquin River below Priant, Calif	1,676	1909-56	² 77,200	Dec. 26	6.66	² 6,440	3.94
117	Little Dry Creek near Priant, Calif	58	1941-56	1,810	Dec. 24	6.70	1,460	25
118	San Joaquin River near Holsa, Calif	1,806	1952-56	² 2,240	Dec. 27	10.52	² 7,240	4.00
119	Panoche Creek below Silver Creek near Panoche, Calif	299	1949-53	3,160	Dec. 23	5.65	1,890	6.33
120	Fresno River near Knowles, Calif	132	1911-13; 1915-56	8,540	Dec. 23	11.62	13,300	101
121	Fresno River near Saulton, Calif	270	1941-56	10,700	Dec. 23	11.64	17,500	64.9
122	Chowchilla River at Buchanan dam site, Calif	238	1921-23; 1930-56	22,600	Dec. 23	16.50	30,000	126
123	Salt Slough near Los Banos, Calif	—	—	1,400	Dec. 27	6.35	546	—
124	San Joaquin River at Fremont Ford Bridge, Calif	6,090	1944-56	² 4,470	Dec. 29	69.86	² 4,600	.57
125	Los Banos Creek near Los Banos, Calif	—	—	—	Dec. 23	11.07	11,400	—
126	San Luis Creek near Los Banos, Calif	84.7	1949-53	2,780	Dec. 23	7.07	2,640	31.1
127	Merced River at Happy Isles Bridge near Yosemite, Calif	181	1915-56	3,260	Dec. 23	12.73	9,960	54.5
128	Tenaya Creek near Yosemite, Calif	47	1904-09; 1912-56	6,330	Dec. 23	8.14	6,070	124
129	Merced River at Pohono Bridge near Yosemite, Calif	321	1916-56	23,000	Dec. 23	21.62	23,600	73.5
130	Merced River at Bagby, Calif	912	1922-56	83,000	Dec. 23	26.80	92,500	101
131	Lake McClure at Exchequer, Calif	1,020	1926-56	² 710.8	Dec. 27	706.1	—	—
132	Merced River at Exchequer, Calif	1,036	1915-56	² 45,200	Dec. 27	11.00	² 10,200	9.83
133	Merced River near Stevenson, Calif	1,274	1940-56	² 13,500	Dec. 26	18.10	² 11,200	8.79
134	Merced River Slough near Newman, Calif	—	—	6,410	Dec. 28	10.91	4,100	—
135	San Joaquin River near Newman, Calif	9,990	1910-56	² 33,000	Dec. 29	17.06	² 16,800	1.68
136	Crestimba Creek near Newman, Calif	136	1932-56	4,900	Dec. 23	5.13	5,620	41.7
137	Falls Creek near Hatch Hatchy, Calif	45.2	1915-56	6,660	Dec. 23	9.00	6,660	147
138	Tuolumne River near Hatch Hatchy, Calif	462	1914-56	² 12,000	Dec. 22	6.07	² 732	1.58
139	Kleanor Creek near Hatch Hatchy, Calif	40	1901; 1909-56	² 11,700	Dec. 22	14.80	² 11,500	144
140	South Fork Tuolumne River near Oakland Recreation Camp, Calif	97.6	1923-56	6,950	Dec. 23	8.70	11,000	136
141	Middle Tuolumne River at Oakland Recreation Camp, Calif	71.6	1915-56	2,310	Dec. 23	11.1	² 6,200	60.3
142	Woods Creek near Jacksonville, Calif	98.4	1925-56	13,500	Dec. 23	14.66	14,500	146
143	Tuolumne River above La Grange Dam, near La Grange, Calif	1,540	1915-56	² 61,000	Dec. 24	34.00	² 41,700	27.1
144	Tuolumne River at Modesto, Calif	—	—	² 37,000	Dec. 26	66.43	² 37,000	—
145	Middle Fork Stanislaus River at Kennedy Meadows, Calif	43.6	1939-56	² 1,730	Dec. 23	6.81	² 1,400	29.9
146	Clark Fork Stanislaus River near Gardnerville, Calif	69.7	1911-56	4,350	Dec. 23	10.54	3,740	36.8
147	Middle Fork Stanislaus River at Delta Half Acre Bridge, Calif	—	—	—	Dec. 23	17.72	26,500	—
148	Middle Fork Stanislaus River at Sand Bar Flat, near Avery, Calif	216	1905-56	26,500	Dec. 23	20.2	37,000	86.5

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-western States—Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge (cfs) (estimated if not gauged)	Date	Stage (feet)	Discharge	
							Cfs	Cfs per sq. mi.
San Joaquin River Basin—Continued								
149	North Fork Stanislaus River near Avery, Calif.	168	1914-15; 1928-29	31,000	Dec. 22	14.00	33,000	286
150	South Fork Stanislaus River at Strawberry, Calif.	41.1	1911-12, 1934-35	3,000	Dec. 22	7.00	2,100	42.7
151	South Fork Stanislaus River near Long Barn, Calif.	57.1	1911-12, 1934-35	4,900	Dec. 23	8.00	3,700	46.4
152	Stanislaus River below Melones powerhouse, Calif.	300	1931-32	10,000	Dec. 23	29.00	10,000	59.7
153	Stanislaus River at Goodwin Dam, near Knights Ferry, Calif.				Dec. 23		10,000	
154	Stanislaus River at Ripon, Calif.		1928-29	4,500	Dec. 24	28.25	62,500	
155	San Joaquin River near Vernalis, Calif.	14,000	1928-29	50,000	Dec. 25	26.00	20,000	5.85
156	Rock Creek near Farmington, Calif.				Dec. 25	6.50	100	
157	San Geronimo Creek near San Andreas, Calif.	57.1	1928-29	320	Dec. 25	8.24	1,000	104
158	San Antonio Creek near San Andreas, Calif.	46.0	1928-29	1,200	Dec. 25	8.50	1,000	107.7
159	South Fork Calaveras River near San Andreas, Calif.	110	1928-29	4,000	Dec. 25	12.20	17,500	149
160	Calaveritas Creek near San Andreas, Calif.	33.3	1928-29	1,500	Dec. 25	9.53	1,000	71.3
161	Esperanza Creek near Mokelumne Hill, Calif.	24.7	1928-29	2,000	Dec. 25	6.70	2,000	180
162	Jenny Maria Creek near Mokelumne Hill, Calif.	34.7	1928-29	1,300	Dec. 25	7.63	1,500	162
163	North Fork Calaveras River near San Andreas, Calif.	30.7	1928-29	1,000	Dec. 25	12.52	6,000	70.4
164	Murray Creek near San Andreas, Calif.	27.0	1928-29	900	Dec. 25	8.62	1,700	72.4
165	Grosvore Creek near Valley Springs, Calif.	20.0	1928-29	3,100	Dec. 25	8.96	3,000	187
166	Calaveras River at Jenny Lind, Calif.	55	1928-29	5,000	Dec. 25	10.44	14,200	36.9
167	Bear Creek near Lockeford, Calif.	11.9	1928-29; 1943-45	1,200	Dec. 25	12.44	1,500	38.0
168	North Fork Mokelumne River below Salt Springs Dam, Calif.	100	1928-29	16,000	Dec. 25	4.50	800	8.35
169	Salt Creek near Mokelumne Peak, Calif.	21	1928-29; 1943-45	5,000	Dec. 25	4.00	4,000	303
170	Salt River near Salt Springs Dam, Calif.	30	1928-29	1,500	Dec. 25	4.00	1,000	30
171	Middle Fork Mokelumne River at West Point, Calif.	67.2	1928-29	3,000	Dec. 25	5.00	4,000	64.0
172	South Fork Mokelumne River near West Point, Calif.	30.0	1928-29	1,200	Dec. 25	11.00	2,000	92.8
173	Mokelumne River near Mokelumne Hill, Calif.	500	1928-29	50,000	Dec. 25	15.40	13,000	43.7
174	Mokelumne River at Lancha Plaza, Calif.	100	1928-29	10,000	Dec. 25	15.10	14,000	45.1
175	Mokelumne River near Clements, Calif.	200	1924-25, 1928-29	20,000	Dec. 24	21.00	17,000	43.0
176	Mokelumne River at Woodbridge, Calif.	241	1924-25	15,000	Dec. 24	20.00	10,000	35.7
177	North Fork Sacramento River at Sacramento Mine, Calif.	40.0	1928-29	1,000	Dec. 25	11.50	5,000	160
178	Deep Creek near Camino, Calif.	30	1928-29	1,000	Dec. 25	10.00	1,400	100
179	Deep Creek near Sacramento, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	
180	North Fork Sacramento River near El Dorado, Calif.	50	1928-29	1,000	Dec. 25	14.8	1,000	70.5
181	Sacramento River at Michigan Bar, Calif.	30	1928-29	1,000	Dec. 25	19.00	1,000	70.1
182	Deep Creek near Doughmore, Calif.				Dec. 25		4,000	
183	Sacramento River at Mokelumne, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	70.5
184	Deep Creek near Galt, Calif.	30	1928-29; 1931-32	1,000	Dec. 25	10.00	1,000	100.7
185	Marsh Creek near Galt, Calif.	30	1928-29	1,000	Dec. 25	10.00	1,000	100.4
186	Shelby Creek near Galt, Calif.	30			Dec. 25		1,000	100.3
Snake Lake Basin								
187	Snake Creek near Lander, Nev.	100	1928-29	1,000	Dec. 25	4.00	1,000	100.5
Sacramento River Basin								
188	Sacramento River at Colusa, Calif.	100	1928-29	1,000	Dec. 25	19.50	1,000	70.5
189	South Fork Pit River near Marysville, Calif.	30	1928-29	1,000	Dec. 25	10.00	1,000	100
190	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
191	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
192	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
193	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
194	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
195	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
196	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
197	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
198	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
199	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
200	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
201	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
202	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
203	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
204	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
205	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
206	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
207	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
208	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
209	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
210	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
211	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
212	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
213	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
214	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
215	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
216	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
217	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
218	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
219	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
220	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
221	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
222	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
223	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
224	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
225	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
226	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
227	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
228	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
229	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
230	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
231	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
232	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
233	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
234	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
235	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
236	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
237	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
238	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
239	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
240	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
241	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
242	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
243	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
244	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
245	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
246	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
247	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
248	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
249	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
250	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
251	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
252	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
253	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
254	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.00	1,000	100
255	Pit River near Marysville, Calif.	100	1928-29	1,000	Dec. 25	10.		

Maximum stages and discharges on streams in far-Western States--Continued

Maximum stage and discharge on streams in far-western States--Continued							
No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1955-January 1956		
					Day	Stage (feet)	Discharge Cfs Cfs per sq mi
Sacramento River Basin--Continued							
211	Antelope Creek near Red Bluff, Calif -----	124	1940-55 -----	10,400	Dec. 19	11.78	8,610 68.6
212	Little Antelope Creek near Red Bluff, Calif -----						3,410 -----
213	Mill Creek near Los Molinos, Calif -----	134	1928-55 -----	23,000	Dec. 22	12.25	10,300 76.9
214	Kider Creek near Paskenta, Calif -----	96.8	1948-55 -----	7,160	Dec. 21	12.52	11,600 121
215	Kider Creek at Garber, Calif -----	142	1949-55 -----	7,690	Dec. 22	13.38	10,400 73.2
216	Thomas Creek at Paskenta, Calif -----	188	1921-55 -----	19,600	Dec. 21	12.14	23,500 125
217	Deer Creek near Vina, Calif -----	200	1911-15; 1920-37; 1939-55 -----	23,800	Dec. 22	12.78	13,000 65.0
218	Pine Creek near Chico, Calif -----				Jan. --		2,130 -----
219	Mad Creek near Chico, Calif -----				Dec. 23		1,890 -----
220	Big Chico Creek near Chico, Calif -----	58.3	1930-55 -----		Dec. 22	14.94	7,150 105
221	Linda Channel of Big Chico Creek at Chico, Calif -----				Dec. 22		6,220 -----
222	Little Chico Creek near Chico, Calif -----						1,680 -----
223	Story Creek near Storyford, Calif -----	97	1913-14; 1918-34 -----		Dec. 22		13,000 134
224	Story Creek at Black Butte dam site, Calif -----		1955-55 -----		Dec. 22	11.33	19,300 -----
225	Story Creek near Hamilton City, Calif -----	764	1941-55 -----	*37,500	Dec. 22	15.96	*22,100 29.0
226	Sacramento River at Butte City, Calif -----		1940-55 -----	170,000	Jan. 16	94.66	*157,000
227	Sacramento River at Colusa, Calif -----		1940-55 -----	*49,000	Jan. 17	66.90	*43,300
228	Butte Creek near Chico, Calif -----	148	1930-55 -----	17,000	Dec. 22	13.35	14,200 95.8
229	Dry Creek near Oroville, Calif -----						2,120 -----
230	Big Orizzly Creek near Portola, Calif -----	44.6	1925-32; 1950-53; 1954-55 -----	2,680	Dec. 22	8.35	2,170 49.7
231	Middle Fork Feather River near Clis, Calif -----	698	1925-55 -----	11,000	Dec. 23	15.77	16,000 22.9
232	Middle Fork Feather River below Sloat, Calif -----	636	1940-55 -----	13,300	Dec. 23	19.25	31,200 37.3
233	Middle Fork Feather River near Morrisac, Calif -----	1,078	1951-55 -----	*34,300	Dec. 23	21.2	62,000 57.5
234	Lost Creek near Clipper Mills, Calif -----	30.1	1927-41; 1948-55 -----	3,380	Dec. 22	6.90	3,500 116
235	South Fork Feather River at Enterprise, Calif -----	134	1911-55 -----	17,300	Dec. 22	21.6	19,200 143
236	Feather River at Bidwell Bar, Calif -----	1,363	1911-55 -----	93,000	Dec. 23	25.2	104,000 76.8
237	North Fork Feather River near Prattville, Calif -----	507	1905-55 -----	*10,000	Dec. 23	1.66	*18 .36
238	Butt Creek above Alamo-Butt Creek tunnel, near Prattville, Calif -----	67.0	1936-37; 1938-55 -----	1,600	Dec. 22	5.15	2,200 32.8
239	Butt Creek below Alamo-Butt Creek tunnel, near Prattville, Calif -----	67.3	1938-55 -----	2,170	Dec. 22	4.29	2,100 31.2
240	Spanish Creek at Kiddle, Calif -----	184	1911-55 -----	12,400	Dec. 23	12.47	13,100 71.3
241	North Fork Feather River at Big Bar, Calif -----	1,945	1911-30; 1931-37; 1939-55 -----	*66,900	Dec. 22	20.2	*72,000 37.0
242	Cenozo Creek near Yankee Hill, Calif -----	14.7	1927-52 -----	2,260	Dec. --		2,300 156
243	West Branch Feather River near Yankee Hill, Calif -----	145	1930-55 -----	*21,800	Dec. 23	30.6	*21,800 150
244	Feather River near Oroville, Calif -----	3,611	1902-55 -----	*230,000	Dec. 23	75.21	*203,000 56.2
245	South Moncut Creek near Bangor, Calif -----	30.5	1950-55 -----	3,170	Dec. 23	11.15	6,340 208
246	Middle Yuba River at Milton, Calif -----	197.1	1925-34; 1935-55 -----	6,800	Dec. 23	4.15	6,680 169
247	Middle Yuba River above Oregon Creek, Calif -----	162	1941-55 -----	19,500	Dec. 22	17.25	16,000 160
248	Oregon Creek near North San Juan, Calif -----	34.4	1910-55 -----	4,000	Dec. 22	11.9	5,390 157
249	North Yuba River near Sierra City, Calif -----	91.8	1911-13; 1923-44 -----	9,800	Dec. 23		11,400 124
250	Rock Creek at Goodyears Bar, Calif -----						(1,570)
251	Woodruff Creek at Goodyears Bar, Calif -----	9.0	1910-33 -----	1,600	Dec. 23		(786) 262
252	North Yuba River below Goodyears Bar, Calif -----	245	1930-37; 1938-55 -----	26,400	Dec. 23	19.3	26,800 109
253	North Yuba River below Bullards Bar Dam, Calif -----	482	1940-55 -----	47,100	Dec. 22	39.0	72,000 149
254	South Yuba River near Cisco, Calif -----	51.6	1942-55 -----	11,700	Dec. 23	14.84	10,200 199
255	Bowman Lake near Graniteville, Calif -----	29.4	1926-55 -----	*5,565.9	Jan. 30	5,568.0	
256	Canyon Creek below Bowman Lake, Calif -----	30.4	1927-55 -----	*2,520	Dec. 22	3.10	*180
257	Yuba River at Englebright Dam, Calif -----	1,104	1941-55 -----	*109,000	Dec. 23	17.73	*148,000 134
258	Deer Creek near Smartville, Calif -----	94.6	1936-55 -----	*11,300	Dec. 23	13.60	*11,300 134
259	Dry Creek near Brownsville, Calif -----	20.4	1948-55 -----	1,190	Dec. 22	7.48	1,890 92.7
260	Dry Creek at Virginia Ranch, Calif -----	71.3	1948-55 -----	7,400	Dec. 22	9.85	9,120 128
261	Bear River near Auburn, Calif -----	140	1940-55 -----	*19,300	Dec. --	16.56	*18,900 135
262	Bear River near Wheatland, Calif -----	295	1920-55 -----	*31,300	Dec. 22	19.30	*33,000 112
263	Dry Creek near Cabbage Patch, Calif -----				Dec. 23		*13,900
264	Dry Creek near Wheatland, Calif -----	99.5	1946-55 -----	5,610	Dec. 23	13.45	8,790 88.3
265	Yankee Slough near Rio Oso, Calif -----				Dec. 23		2,200 -----
266	Sacramento River at Verona, Calif -----		1929-55 -----	*79,200	Dec. 23	39.81	*70,400
267	Sacramento weir near Sacramento, Calif -----		1950-55 -----	*118,000	Dec. 23		61,000
268	North Fork American River at North Fork Dam, Calif -----	343	1941-55 -----	46,600	Dec. 23	10.14	48,300 141
269	Rubicon River near Georgetown, Calif -----	198	1909-14; 1943-55 -----	44,600	Dec. 23	18.76	51,000 258
270	Pilot Creek near Georgetown, Calif -----	15.1	1910-14; 1945-55 -----	3,040	Dec. 23	8.06	3,040 201
271	Middle Fork American River near Auburn, Calif -----	619	1911-55 -----	68,600	Dec. 23	33.9	79,000 128
272	South Fork American River near Yuba, Calif -----	195	1907; 1924-55 -----	*14,500	Dec. 23	9.25	*13,800 70.4
273	Alder Creek near Whitehall, Calif -----	22.8	1922-55 -----	*3,700	Dec. 23	8.40	5,500 241

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-Western States--Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1955-January 1956			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq. mi.
<u>Sacramento River Basin--Continued</u>								
274	Plum Creek near Riverton, Calif. -----	81.1	1932-39 -----	635	Dec. 23	-----	1,400	206
276	Silver Creek at Union Valley, Calif. -----	82.7	1924-56 -----	12,100	Dec. 23	18.86	15,800	191
276	South Fork Silver Creek near Ice House, Calif. -----	28.4	1934-56 -----	3,900	Dec. 23	6.71	3,950	139
277	Silver Creek near Placerville, Calif. -----	176	1921-56 -----	25,800	Dec. 23	16.9	39,000	222
278	South Fork American River near Camino, Calif. -----	479	1923-56 -----	*46,000	Dec. 23	32.6	*56,000	113
279	South Fork American River near Lotus, Calif. -----	678	1951-56 -----	*52,300	Dec. 23	21.37	*71,800	106
280	Webber Creek near Salmon Falls, Calif. -----	100	1943-56 -----	6,740	Dec. 23	16.92	11,800	118
281	Folsom Reservoir near Folsom, Calif. -----	-----	1963-56 -----	-----	Dec. 24	456.16	-----	-----
282	American River at Fair Oaks, Calif. -----	1,921	1904-56 -----	*180,000	Dec. 24	20.36	*68,000	35.4
283	American River at Sacramento, Calif. -----	-----	1943-56 -----	*176,000	Dec. 24	-----	*71,000	-----
284	Sacramento River at Sacramento, Calif. -----	-----	1948-56 -----	*104,000	Dec. 23	38.67	*90,000	-----
286	Kilder Creek near Sacramento, Calif. -----	-----	-----	-----	Dec. 22	-----	680	-----
286	Middle Creek near Upper Lake, Calif. -----	46	-----	-----	Dec. 21	9.66	6,600	122
287	Clover Creek near Upper Lake, Calif. -----	14	-----	-----	Dec. 21	9.46	2,380	163
288	Scotts Creek near Upper Lake, Calif. -----	54	-----	-----	Dec. 22	17.0	7,660	142
289	Adobe Creek near Kelseyville, Calif. -----	6.39	1954-56 -----	-----	Dec. 21	8.72	1,250	196
290	Highland Creek near Kelseyville, Calif. -----	12.4	1964-56 -----	-----	Dec. 19	10.92	1,800	147
291	Kelsey Creek near Kelseyville, Calif. -----	37.4	1946-56 -----	8,150	Dec. 21	12.80	8,000	235
292	Cache Creek near Lower Lake, Calif. -----	528	1944-56 -----	5,760	Dec. 27	8.28	4,670	89.5
293	North Fork Cache Creek near Lower Lake, Calif. -----	198	1930-56 -----	20,300	Dec. 22	12.06	14,400	72.6
294	Cache Creek near Capay, Calif. -----	1,062	1942-56 -----	23,000	Dec. 22	17.54	23,000	21.8
296	Cache Creek at Yolo, Calif. -----	1,137	1903-56 -----	38,700	Dec. 22	28.63	22,600	19.8
296	Yolo bypass near Woodland, Calif. -----	-----	1940-56 -----	272,000	Dec. 23	31.6	250,000	-----
297	Puteh Creek near Quenoc, Calif. -----	112	1904-06; 1930-56 -----	32,000	Dec. 20	21.80	29,300	261
298	Puteh Creek near Winters, Calif. -----	577	1930-56 -----	81,000	Dec. 21	26.73	*56,400	96.8
299	Puteh Creek near Davis, Calif. -----	636	1948-56 -----	39,000	Dec. 22	24.36	*46,500	73.1
300	Ulatie Creek near Vacaville, Calif. -----	-----	-----	-----	Dec. 22	-----	*972	-----
<u>Mapa River Basin</u>								
301	Mapa River near St. Helena, Calif. -----	81.3	1929-38; 1939-56 -----	11,800	Dec. 22	15.17	12,600	156
302	Gerr Creek near St. Helena, Calif. -----	52.3	1929-56 -----	*7,700	Dec. 23	3.70	*3,600	68.8
303	Dry Creek near Mapa, Calif. -----	17.4	1951-56 -----	2,380	Dec. 19	7.26	2,640	152
<u>Sonoma Creek Basin</u>								
304	Sonoma Creek at Hayes Hot Springs, Calif. -----	62.7	1955-56 -----	-----	Dec. 22	17.1	8,880	142
<u>Petaluma Creek Basin</u>								
306	Petaluma Creek near Petaluma, Calif. -----	29.6	1948-56 -----	1,360	Dec. 22	13.65	1,860	62.8
<u>Novato Creek Basin</u>								
306	Novato Creek near Novato, Calif. -----	16.9	1946-56 -----	1,130	Dec. 22	7.08	*1,120	66.3
<u>Corte Madera Creek Basin</u>								
307	Corte Madera Creek at Ross, Calif. -----	18.3	1961-56 -----	3,300	Dec. 22	17.46	3,620	198
<u>Lagunitas Creek Basin</u>								
308	Arroyo Micasio near Point Reyes Station, Calif. -----	36.2	1953-56 -----	7,630	Dec. 22	14.67	9,010	249
<u>Walker Creek Basin</u>								
309	North Fork Walker Creek near Tomales, Calif. -----	19.9	-----	-----	Dec. 22	-----	2,720	137
<u>Russian River Basin</u>								
310	Russian River near Ukiah, Calif. -----	104	1911-13; 1952-56 -----	13,600	Dec. 21	19.0	18,900	182
311	East Fork Russian River near Calpella, Calif. -----	94.0	1941-56 -----	11,300	Dec. 21	15.06	13,300	141
312	East Fork Russian River near Ukiah, Calif. -----	104	1911-13; 1951-56 -----	10,300	Dec. 21	16.86	13,300	128
313	Russian River near Hopland, Calif. -----	362	1939-56 -----	34,100	Dec. 22	27.00	59,400	164
314	Feltz Creek near Hopland, Calif. -----	21.2	-----	-----	Dec. 21	-----	2,710	86.9
315	Big Sulphur Creek near Cloverdale, Calif. -----	81.7	-----	-----	Dec. 22	-----	20,000	246
316	Russian River near Cloverdale, Calif. -----	508	1951-56 -----	33,300	Dec. 22	30.9	62,000	124
317	Franz Creek near Healdsburg, Calif. -----	14.4	-----	-----	Dec. 22	-----	4,120	289
318	Russian River near Healdsburg, Calif. -----	791	1939-56 -----	67,000	Dec. 22	26.16	66,400	82.7
319	Dry Creek near Cloverdale, Calif. -----	86.3	1941-56 -----	21,400	Dec. 22	17.80	17,600	199
320	Dry Creek near Healdsburg, Calif. -----	131	-----	-----	Dec. 22	-----	28,500	220
321	Mark West Creek near Windsor, Calif. -----	49	-----	-----	Dec. 22	-----	11,000	224
322	Santa Rosa Creek at Santa Rosa, Calif. -----	53	-----	-----	Dec. 21	-----	7,940	140
323	Russian River near Ormeville, Calif. -----	1,342	1939-56 -----	80,400	Dec. 23	49.7	90,100	67.1
<u>Garcia River Basin</u>								
324	South Fork Garcia River near Anderson, Calif. -----	161	1950-56 -----	32,900	Dec. 22	34.56	55,000	342
<u>Garcia River Basin</u>								
325	Garcia River near Point Arena, Calif. -----	93.2	-----	-----	Dec. 22	26.75	26,300	269

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-Western States—Continued

Maximum Discharge and Discharges on Streams in Far-Western States—Continued								
No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1956-January 1957			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq. mi.
<u>Alder Creek Basin</u>								
326	Alder Creek near Manchester, Calif.	36.6	-----	-----	Dec. 23	-----	5,000	189
<u>Navarro River Basin</u>								
327	Navarro River near Navarro, Calif.	304	1950-56	26,600	Dec. 22	40.60	64,500	212
<u>Hig River Basin</u>								
328	Hig River near Mendocino, Calif.	152	-----	-----	Dec. 22	31.9	31,300	205
<u>Moyo River Basin</u>								
329	Moyo River near Fort Bragg, Calif.	106	1951-56	16,000	Dec. 22	25.69	27,600	263
330	Pudding Creek near Fort Bragg, Calif.	11.9	-----	-----	Dec. 23	-----	1,940	164
<u>Mattole River Basin</u>								
331	Mattole River near Petrolia, Calif.	240	1911-13; 1953-56	40,000	Dec. 21	20.60	90,400	377
332	North Fork Mattole River at Petrolia, Calif.	37.6	1951-56	-----	Dec. 21	10.6	9,600	255
<u>Kel River Basin</u>								
333	Kel River below Scott Dam, near Potter Valley, Calif.	289	1922-56	41,100	Dec. 22	21.8	40,000	139
334	Kel River below Van Arsdale Dam, near Potter Valley, Calif.	347	1909-56	40,000	Dec. 22	31.4	40,600	140
335	Outlet Creek near Laytonville, Calif.	501	-----	-----	Dec. 23	-----	23,100	229
336	Kel River above Don Rio, Calif.	703	1950-56	55,000	Dec. 22	45.4	123,000	175
337	Black Butte River near Covelo, Calif.	161	-----	-----	Dec. 21	35.8	26,000	156
338	Middle Fork Kel River below Black Butte River, near Covelo, Calif.	367	1951-56	41,100	Dec. 21	25.0	89,100	243
339	Short Creek near Covelo, Calif.	17.4	-----	-----	Dec. 21	-----	3,700	217
340	Kel River below Oak River, Calif.	1,481	1911-13; 1951-56	96,400	Dec. 22	49.86	283,000	191
341	North Fork Kel River near Mina, Calif.	261	1953-56	23,200	Dec. 22	24.00	58,400	223
342	Kel River at Alderpoint, Calif.	2,079	1955-56	-----	Dec. 22	78.5	332,000	160
343	South Fork Kel River near Brantcomb, Calif.	43.8	1946-56	7,120	Dec. 22	16.20	20,100	459
344	Terminus Creek near Laytonville, Calif.	50.1	-----	-----	Dec. 22	-----	16,300	324
345	South Fork Kel River near Miranda, Calif.	647	1940-56	73,300	Dec. 23	42.7	173,000	316
346	Kel River at Seattle, Calif.	4,073	1910-15; 1916-56	545,000	Dec. 22	61.9	541,000	176
347	Van Dusen River near Ormanston, Calif.	90.2	1953-56	14,000	Dec. 22	19.38	21,400	267
348	South Fork Van Dusen River near Bridgeville, Calif.	36.2	-----	-----	-----	11.91	8,900	245
349	Van Dusen River near Hedgeville, Calif.	214	1950-56	45,400	Dec. 22	21.3	43,500	203
<u>Jacoby Creek Basin</u>								
350	Jacoby Creek near Freshwater, Calif.	6,017	1924-56	-----	Dec. 21	6.79	1,430	245
<u>Mad River Basin</u>								
351	Mad River near Forest Glen, Calif.	199	1953-56	13,800	Dec. 22	23.6	39,300	298
352	North Fork Mad River at Lodi, Calif.	46.9	-----	-----	Dec. 22	-----	13,600	247
353	Mad River near Arden, Calif.	438	1910-11; 1951-56	75,300	Dec. 22	27.30	77,800	160
<u>Little River Basin</u>								
354	Little River at Grassell, Calif.	44.3	1912-56	-----	Dec. 22	6.65	0,480	191
<u>Redwood Creek Basin</u>								
355	Redwood Creek near Blue Lake, Calif.	57.5	1951-56	8,310	Dec. 21	13.68	9,440	163
356	Redwood Creek at Ukiah, Calif.	270	1911-13; 1951-56	56,000	Dec. 22	22.35	59,000	100
<u>Lower Klamath Lake Basin</u>								
357	Antelope Creek near Tule City, Calif.	19.5	1951-56	194	Dec. 22	3.09	308	157
358	Butte Creek near Madras, Calif.	170	1951-56	105	Dec. 22	4.26	330	194
<u>Klamath River Basin</u>								
359	Williamson River near Klamath Agency, Oreg.	1,100	1911-13; 1951-56	1,000	Dec. 22	5.65	1,130	100
360	Sprague River near Healy, Oreg.	514	1951-56; 1952-56	5,000	Dec. 23	9.44	5,140	998
361	Sprague River near Malheur, Oreg.	1,100	1951-56	6,050	Dec. 23	6.67	6,430	584
362	Williamson River below Sprague River, near Williamson, Oreg.	1,000	1951-56	7,660	Dec. 23	6.70	6,430	214
363	Upper Klamath Lake near Klamath Falls, Oreg.	4,100	1951-56	4,144.5	Dec. 23	4,142.50	4,142.50	-----
364	Link River at Klamath Falls, Oreg.	5,000	1951-56	6,400	Dec. 23	7.74	6,000	1,44
365	Klamath River at Reno, Oreg.	13,200	1951-56; 1952-56	6,830	Dec. 23	12.26	6,300	1,17
366	Fall Creek at Irwin, Calif.	20	1951-56	100	Dec. 23	4.31	320	160
367	Klamath River below Fall Creek, near Irwin, Calif.	1,100	1951-56	6,000	Dec. 21	6.15	11,400	100
368	Donn Creek at Hyatt Flat, near Irwin, Oreg.	11	1917-22; 1941-56	100	Dec. 23	34.3	18.3	174
369	Santa River near Madras, Calif.	50	1951-56	-----	Dec. 23	-----	4,000	800
370	Little Shasta River near Longview, Calif.	-----	-----	-----	Dec. 23	-----	1,400	-----
371	Shasta River near Redding, Calif.	206	1951-56; 1944-56	7,000	Dec. 23	5.43	5,000	240
372	Deaver Creek near Walker, Calif.	207	-----	-----	Dec. 23	-----	4,000	400
373	East Fork South River near Williams, Calif.	-----	1913-56	-----	Dec. 23	-----	6,600	-----
374	South Fork South River near Williams, Calif.	-----	-----	-----	Dec. 23	-----	3,200	-----
375	Scott River near Fort Jones, Calif.	66	1951-56	20,000	Dec. 23	21.3	50,000	500

See footnotes at end of table, page 1b.

Maximum stages and discharges on streams in far-Western States—Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1955-January 1956			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq mi
Klamath River Basin—Continued								
376	Klamath River near Seiad Valley, Calif	6,980	1912-26; 1961-66	55,200	Dec. 22	29.2	122,000	17.5
377	South Fork Salmon River near Forks of Salmon, Calif	251			Dec. 22	12.2	24,200	96.4
378	Salmon River at Somesbar, Calif	746	1911-15; 1927-66	¹ 19,23	Dec. 22	28.80		
379	Klamath River at Somesbar, Calif	6,480	1927-66	137,000	Dec. 22	59.4	202,000	23.9
380	Trinity River at Lewiston, Calif	724	1911-66	40,300	Dec. 22	27.3	71,600	98.9
381	South Fork Trinity River near Hyampson, Calif	342			Dec. 22	22.2	² 39,400	116
382	Hayfork Creek near Hayfork, Calif	87.2			Dec. 21		3,880	44.5
383	Hayfork Creek near Hyampson, Calif	379	1963-66	11,400	Dec. 22	18.00	26,300	66.8
384	South Fork Trinity River near Malver, Calif	999	1960-66	38,900	Dec. 22	39.4	74,700	93.1
385	Trinity River near Hoopa, Calif	2,840	1911-14; 1916-18; 1931-66	124,000	Dec. 22	36.9	190,000	66.9
386	Klamath River near Klamath, Calif	12,100	1910-36; 1950-66	297,000	Dec. 22	49.7	425,000	36.1
Smith River Basin								
387	South Fork Smith River near Crescent City, Calif	296	1964-66		Dec. 22	36.95	108,000	366
388	Smith River near Crescent City, Calif	613	1931-66	152,000	Dec. 22	41.2	165,000	269
389	Reedy Creek near Smith River, Calif	36.0					4,760	136
Spokane River Basin								
390	Spokane River at Spokane, Wash	4,290	1891-1966	49,000	Dec. 26	26.30	24,500	5.71
391	Latah Creek at Spokane, Wash	619	1949-66	11,900	Dec. 22	12.16	11,300	18.3
Yakima River Basin								
392	Satus Creek tributary near Toppenish, Wash	8.51		766	Dec. 21		970	114
393	Satus Creek below Bull Creek near Toppenish, Wash	97.2			Dec. 21		5,990	61.6
Requartzel Coulee Basin								
394	Providence Coulee at Cunningham, Wash	37.8	1963-66		Jan. 4	5.26	333	12.0
395	Requartzel Coulee at Connell, Wash	240	1963-66		Jan. 4	8.37	1,530	6.33
396	Requartzel Coulee at Eltopia, Wash	394	1963-66	0	Jan. 6	6.87	132	.34
Snake River Main Stem								
397	Snake River near Murphy, Idaho	41,900	1912; 1913-66	47,300	Jan. 17	6.52	15,700	.37
Owyhee River Basin								
398	Jordan Creek above Lone Tree Creek near Jordan Valley, Ore	440	1965-66	⁶⁶ 3,260	Dec. 23	7.74	2,130	4.84
399	Owyhee River near Rome, Ore	8,000	1949-66	27,800	Jan. 16	14.77	24,800	3.10
Boise River Basin								
400	Middle Fork Boise River near Twin Springs, Idaho	382	1946-60	4,370	Dec. 23	7.10	4,020	10.5
401	Boise River near Twin Springs, Idaho	830	1911-66	10,300	Dec. 23	8.31	10,300	12.4
402	South Fork Boise River near Featherfalls, Idaho	636	1946-66	6,630	Dec. 23	4.53	2,000	3.15
403	Anderson Ranch Reservoir at Anderson Ranch Dam, Idaho	980	1945-66	^P 470,700	Dec. 26	4,142.36	^P 283,600	
404	South Fork Boise River at Anderson Ranch Dam, Idaho	982	1943-66	9,100	Jan. 16	4.63	⁶ 1,660	1.68
405	Arrowrock Reservoir at Arrowrock, Idaho	3,210	1917-66	^P 301,200	Jan. 18	3,217.50	^P 291,200	
406	Rannock Creek near Idaho City, Idaho	4.5	1939-41; 1950-66	39	Dec. 23	1.91	31	6.89
407	Moore Creek above Robie Creek near Arrowrock, Idaho	399	1950-66	3,620	Dec. 23	9.55	5,440	13.6
408	Robie Creek near Arrowrock, Idaho	15.8	1960-66	118	Dec. 23	3.67	163	10.3
409	Lucky Peak Reservoir near Boise, Idaho		1954-66	^P 306,100	Jan. 31		^P 258,300	
410	Boise River near Boise, Idaho		1895-1916; 1955-66	36,600			⁹ 0	
411	Boise River at Motus, Idaho	3,820	1920-66	20,600	Jan. 23	4.41	2,140	.86
Payette River Basin								
412	South Fork Payette River at Loumar, Idaho	466	1941-66	5,460	Dec. 22	5.59	3,170	6.75
413	Deadwood Reservoir near Loumar, Idaho	108	1936-66	¹ 5,337.1	Jan. 31	5,300.63		
414	Deadwood River below Deadwood Reservoir, near Loumar, Idaho	108	1926-66	2,580			93	
415	Deadwood River near Loumar, Idaho	230	1921-63	4,230	Dec. 22	3.45	^P 1,470	
416	South Fork Payette River near Garden Valley, Idaho	779	1921-63	10,600	Dec. 22	5.92	6,530	8.38
417	South Fork Payette River near Banks, Idaho	1,200	1921-66	13,800	Dec. 23	10.87	12,400	10.3
418	Payette Lake at McCall, Idaho	144	1921-66	¹ 3.75	Dec. 26	3.44		
419	North Fork Payette River at McCall, Idaho	144	1909-17; 1919-66	4,260	Dec. 22	3.45		3.55
420	Lake Fork Payette River above Nusho Creek, near McCall, Idaho	48.9	1945-66	2,600	Dec. 22	7.26	1,080	22.3
421	Lake Fork Reservoir near McCall, Idaho	64	1926-66	^P 19,740			(6)	
422	Lake Fork Payette River below Lake Irrigation District Canal, near McCall, Idaho	64	1940-66	2,120	Dec. 26	3.06	520	3.47
423	Cascade Reservoir at Cascade, Idaho	626	1948-66	^P 406,100	Jan. 30	4,809.37	^P 302,800	
424	North Fork Payette River at Cascade, Idaho	626	1941-66	7,320	Dec. 19	2.16	⁶ 1,200	1.93
425	North Fork Payette River near Banks, Idaho	937	1947-66	8,630	Dec. 22	11.14	5,400	5.78
426	Porter Creek near Gardiner, Idaho	21.2	1938-46	191	Dec. 22	2.49	140	6.66
427	Payette River near Horseshoe Bend, Idaho	2,830	1886-16; 1919-66	26,000	Dec. 23	14.06	19,200	6.62
428	Porter Creek near Horseshoe Bend, Idaho				Dec. 22		1,240	

See footnote at end of table, page 15.

Maximum stages and discharges on streams in far-Western States—Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1955-January 1956		
					Day	Stage (feet)	Discharge
							Cfs	Cfs per sq. mi.
Payette River Basin—Continued							
429	Cottonwood Creek near Oia, Idaho				Dec. 28		722
430	Little Squaw Creek near Oia, Idaho				Dec. 30		1,000
431	Squaw Creek near Sweet, Idaho				Dec. 30		4,970
432	Payette River near Emmet, Idaho	2,580	1925-26	22,800	Dec. 22	12.90	22,700 8.40
433	Willow Creek near New Plymouth, Idaho				Jan. 15		1,642
434	Little Willow Creek New Plymouth, Idaho				Dec. 20		1,055
435	Payette River near Payette, Idaho	2,340	1935-36	23,400	Dec. 23	12.75	21,900 6.77
Weiser River Basin							
436	Weiser River at Tamarack, Idaho	36.5	1936-38	775	Dec. 22	7.17	1,320 36.2
437	East Fork Weiser River near Starkey, Idaho	31.6	1937-39	400 ^a	Dec. 22		331 26.0
438	Weiser River at Starkey, Idaho	106	1939-49	2,430	Dec. 22	6.62	2,300 26.4
439	Lost Creek near Tamarack, Idaho	29.4	1910-14; 1939-41; 1974-55	568			556
440	West Fork Weiser River near Knappa, Idaho	78	1910-13; 1919-25; 1937-49	1,170	Dec. 22		734
441	Hornet Creek near Council, Idaho	127	1937-47	1,180	Dec. 22		2,020 19.5
442	Weiser River near Cambridge, Idaho	556	1939-56	7,670	Dec. 22	13.7	10,100 16.7
443	Rush Creek at Cambridge, Idaho	22	1938-43	502	Dec. 22	5.56	469 24.6
444	Little Weiser River near Snake Valley, Idaho	81.9	1930-31; 1932-37; 1939-56	1,840	Dec. 22	4.67	1,200 14.5
445	Weiser River below Little Weiser River, near Cambridge, Idaho				Dec. 22		15,600
446	Milk Creek near Crane, Idaho				Dec. 22		342
447	South Fork Crane Creek near Crane, Idaho				Dec. 23		1,360
448	Crane Creek near Crane, near Malheur, Idaho	242	1939-56	3,660	Jan. 19	47.31	
449	Crane Creek near Malheur, Idaho	242	1910-16; 1934-56	4,740	Dec. 27	4.76	700 2.92
450	Weiser River near Weiser, Idaho	1,465	1955-56; 1956-57; 1910-14; 1951-56	16,905	Dec. 25	11.36	19,300 13.6
451	Karo Creek near Weiser, Idaho	56	1911-13; 1920; 1937-56	1,540	Dec. 22	1.96	500 8.93
452	Monroe Creek above Sheep Creek, near Weiser, Idaho	53	1948-49	170	Dec. 22	7.9	271 8.46
Snake River Main Stem							
453	Snake River at Weiser, Idaho	69,301	1912-56	105,000	Dec. 24	10.72	52,500 7.58
Brownlee Creek Basin							
454	Brownlee Creek near South, Idaho				Dec. 32		189
Wild Horse Creek Basin							
455	Wild Horse Creek above Snake Creek, near Wild Horse, Idaho				Dec. 22		2,580
456	Wild Horse Creek below Snake Creek, near Wild Horse, Idaho				Jan. 22		2,590
Snake River Main Stem							
457	Snake River at Orono, Ore.	67,800	1933-56	69,730	Dec. 24	10.94	52,600 7.75
Salmon River Basin							
458	Little Salmon River near Pollock, Idaho				Dec. 22		4,480
459	Little Salmon River at Riggins, Idaho	376	1932-56	5,330	Dec. 22	8.34	7,350 19.1
Asotin Creek Basin							
460	Asotin Creek near Asotin, Wash.	256	1934-56; 1910-11; 1933-56	1,190	Dec. 22	1.94	1,340 6.80
Dry Creek Basin							
461	Dry Creek near Clarkston, Wash.	2,220			Dec. 22		650 29.3
Snake River Main Stem							
462	Snake River near Clarkston, Wash.	69,301	1935-56	540,000	Dec. 22	20.72	176,000 2.54
Palouse River Basin							
463	Palouse River near Walla, Wash.	491	1932-56		Dec. 22	7.28	4,780 9.73
464	North Elm Creek tributary near Walla, Wash.	1,777			Dec. 31		820 4.62
465	Union Elm Creek near Coeur, Wash.	115	1932-56	250	Dec. 31	1.13	1,350 1.18
466	Palouse River at Hooper, Wash.	1,342	1937-1955; 1951-56	27,850	Dec. 22	14.01	17,000 12.7
Walla Walla River Basin							
467	East Fork Touchet River near Light, Wash.	180	1910-11	1,530	Dec. 22	1.96	2,700 15.0
468	Touchet River at Walla, Wash.	307	1914-55; 1915-26	4,420	Dec. 18	3.72	3,410 11.1
Wentworth River Basin							
469	Wentworth River near Dandridge, Ore.	1,200	1932-56	15,400	Dec. 22	6.38	15,300 12.75
John Day River Basin							
470	John Day River at Klamath Falls, Ore.	1,300	1932-56	57,100	Dec. 22	6.72	24,000 18.5
Reynolds River Basin							
471	Reynolds River at Ninety, near Elgin, Ore.	1,300	1932-56; 1933-56	15,000	Dec. 22	6.72	24,000 18.5

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-Western States--Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1955-January 1956			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq mi
<u>Columbia River, main stem</u>								
472	Columbia River near The Dalles, Oreg	237,000	1858-1955	1,240,000	Dec. 24	137.01	320,000	1.35
<u>Hood River Basin</u>								
473	Hood River near Hood River, Oreg	329	1913-55	34,000	Dec. 12	7.09	15,000	45.7
<u>Klickitat River Basin</u>								
474	Little Klickitat River near Mahkiasus, Wash	280	1944-55	7,000	Dec. 21	8.57	6,450	19.5
<u>Wind River Basin</u>								
475	Wind River above Trout Creek near Carson, Wash	108	1944-55	8,880	Dec. 21	13.36	6,480	59.8
476	Wind River near Carson, Wash	225	1934-55	20,000	Dec. 21	16.69	18,500	82.3
<u>Sandy River Basin</u>								
477	Sandy River below Bull Run River, near Bull Run, Oreg	440	1910-14; 1929-55	58,000	Dec. 21	14.97	30,900	70.2
<u>Willamette River Basin</u>								
478	Middle Fork Willamette River above Salt Creek, near Oakridge, Oreg	392	1913-14; 1935-55	34,000	Dec. 22	12.71	33,300	84.9
479	Salmon Creek near Oakridge, Oreg	117	1913-19; 1933-55	8,040	Dec. 22	8.20	7,640	65.3
480	North Fork of Middle Fork Willamette River near Oakridge, Oreg	846	1909-16; 1935-55	17,000	Dec. 22	14.60	13,400	54.6
481	Middle Fork Willamette River below North Fork, near Oakridge, Oreg	924	1911-12; 1923-55	82,200	Dec. 22	13.36	78,900	78.9
482	Middle Fork Willamette River near Dexter, Oreg	1,001	1956-55	12,700	Jan. 26	8.30	15,900	16.9
483	Fall Creek below Winberry Creek, near Fall Creek, Oreg	186	1911; 1935-55	22,500	Dec. 22	13.74	12,800	68.6
484	Middle Fork Willamette River at Jasper, Oreg	1,340	1905-12; 1913-17; 1952-55	94,000	Dec. 22	8.86	20,900	15.6
485	Coast Fork Willamette River at London, Oreg	69	1935-55	8,800	Dec. 22	10.68	6,210	90.0
486	Coast Fork Willamette River below Cottage Grove Dam, near Cottage Grove, Oreg	104	1939-55	3,340	Dec. 30	9.36	3,220	31.0
487	Prather Creek near Elston, Oreg	5.45	1952-55	279	Dec. 21	5.66	264	48.4
488	Row River above Pitcher Creek, near Dorana, Oreg	211	1935-55	19,600	Dec. 22	13.62	19,200	91.0
489	Row River near Cottage Grove, Oreg	270	1939-55	21,400	Dec. 22	11.02	9,060	33.6
490	Moody Creek at mouth, near Cottage Grove, Oreg	96	1946-55	7,160	Dec. 22	10.66	6,920	72.1
491	Coast Fork Willamette River near Osban, Oreg	643	1906-12; 1950-55	58,500	Dec. 26	16.44	25,400	39.6
492	Willamette River at Springfield, Oreg	2,030	1911-13; 1919-55	140,000	Dec. 26	9.94	48,600	23.9
493	McKenzie River at outlet of Clear Lake, Oreg	101	1912-15; 1947-55	2,600	Dec. 22	7.66	2,880	28.5
494	McKenzie River at McKenzie Bridge, Oreg	246	1910-55	16,500	Dec. 22	7.79	13,000	37.7
495	South Fork McKenzie River near Rainbow, Oreg	211	1947-55	24,500	Dec. 22	—	17,400	82.6
496	Lookout Creek tributary No. 1 near Blue River, Oreg	338	1952-55	47	Dec. 21	2.47	31	71.7
497	Lookout Creek tributary No. 2 near Blue River, Oreg	1,000	1952-55	52	Jan. 15	3.08	69	144
498	Blue River near Blue River, Oreg	75	1935-55	13,300	Dec. 21	7.80	9,700	129
499	McKenzie River near Vida, Oreg	930	1924-55	64,400	Dec. 22	16.00	51,700	55.6
500	Gate Creek at Vida, Oreg	47.6	1951-55	5,510	Dec. 22	8.38	3,680	77.3
501	Mohawk River near Springfield, Oreg	180	1935-52	8,600	Dec. 21	22.9	9,200	51.1
502	McKenzie River near Coburg, Oreg	1,310	1944-55	80,200	Dec. 22	16.26	73,500	56.1
503	Willamette River at Harrisburg, Oreg	3,420	1944-55	210,000	Dec. 22	16.26	114,000	33.4
504	Long Tom River near Mott, Oreg	89	1935-55	4,930	Dec. 22	20.17	6,790	79.4
505	Coyote Creek near Crow, Oreg	94	1940-55	9,260	Dec. 21	14.32	10,100	107
506	Long Tom River below Fern Ridge Dam, near Smithfield, Oreg	252	1939-55	12,500	Dec. 26	13.97	10,400	41.3
507	Amazon Creek near Bageus, Oreg	21.3	1954-55	742	Dec. 21	9.25	2,120	99.6
508	Long Tom River at Monroe, Oreg	391	1920-55	19,300	Dec. 22	10.26	11,000	28.1
509	Rock Creek near Philomath, Oreg	14.6	1946-55	1,650	Dec. 21	6.87	2,170	149
510	Marys River near Philomath, Oreg	159	1940-55	8,250	Dec. 21	20.85	9,120	57.4
511	Calapooia River at Molloy, Oreg	105	1935-55	12,200	Dec. 21	12.67	10,700	102
512	Calapooia River at Albany, Oreg	372	1940-55	24,900	Dec. 22	22.12	33,000	88.7
513	Willamette River at Albany, Oreg	4,840	1878-82; 1892-1954	346,000	Dec. 23	26.70	155,000	32.2
514	Cox Creek at Albany, Oreg	15.2	1953-55	720	Dec. 21	12.34	770	50.7
515	North Santiam River below Boulder Creek, near Detroit, Oreg	215	1907-9; 1928-55	20,300	Dec. 22	8.98	15,200	70.4
516	Breitenbush River tributary near Detroit, Oreg	92	1953-55	119	Dec. 21	11.14	112	122
517	Breitenbush River above Gargon Creek, near Detroit, Oreg	106	1932-55	11,600	Dec. 22	10.80	9,220	87.0
518	North Santiam River at Niagara, Oreg	453	1908-19; 1938-55	63,200	Jan. 11	9.16	15,100	33.3
519	North Santiam River tributary near Gates, Oreg	1.69	1961-55	86	Dec. 21	17.28	91	47.9
520	Little North Santiam River near Mahana, Oreg	110	1931-55	19,900	Jan. 15	12.00	13,300	121
521	North Santiam River at Mahana, Oreg	665	1905-07; 1910-14; 1921-55	76,600	Jan. 15	9.51	20,300	30.0
522	South Santiam River near Cascade, Oreg	94	1952-55	90	Dec. 21	13.21	45	47.9
523	South Santiam River below Cascade, Oreg	174	1935-55	23,400	Dec. 21	16.64	21,900	126
524	Middle Santiam River at mouth, near Foster, Oreg	287	1951-55	41,000	Dec. 21	18.36	32,500	113
524a	Wiley Creek near Foster, Oreg	52	1947-55	5,410	Dec. 21	7.86	6,200	121
525	South Santiam River at Waterloo, Oreg	640	1905-07; 1910-11; 1923-55	74,200	Dec. 21	19.95	62,800	98.1

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-Western States—Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1950-January 1956			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq mi
<u>Willamette River Basin—Continued</u>								
526	Santiam River at Jefferson, Oreg	1,790	1905-06; 1907-16; 1939-56	224,000	Dec. 22	21.11	115,300	64.3
527	Luckiamute River near Hopkins, Oreg	34	1934-56	5,560	Jan. 4	10.36	3,780	111
528	Luckiamute River at Pendle, Oreg	115	1940-56	13,500	Dec. 21	15.96	9,300	80.9
529	Luckiamute River near Suver, Oreg	240	1906-11; 1940-56	26,000	Jan. 4	30.46	16,200	67.6
530	Ridgeway Creek near Dallas, Oreg	43.4			Dec. 21		7,120	164
531	Willamette River at Salem, Oreg	7,290	1909-16; 1927-56	500,000	Dec. 28	25.46	240,000	33.0
532	Mill Creek at penitentiary annex, near Salem, Oreg	104	1938-56	8,330	Dec. 21	8.26	4,010	46.2
533	Mill Creek at Salem, Oreg	110	1938-56	11,330	Dec. 23	6.53	11,150	10.6
534	Glen Creek tributary at Prush College, Oreg	4.83	1951-56	238	Jan. 1	16.4	212	43.9
535	South Yamhill River near Willamina, Oreg	133	1934-56	15,200	Dec. 21	14.64	15,000	113
536	Willamina Creek near Willamina, Oreg	66	1934-56	8,360	Dec. 21	11.66	7,800	120
537	South Yamhill River near Whitaker, Oreg	605	1940-56	26,900	Dec. 23	46.25	36,600	73.2
538	Hankins Creek below reservoir near McMinnville, Oreg	7.1	1951-56	588	Dec. 21	3.52	60,462	62.3
539	North Yamhill River at Pike, Oreg	65.8	1940-56	6,280	Dec. 21	12.43	5,610	147
540	Willamette River at Wilsonville, Oreg	9,400	1948-56	248,000	Dec. 24	46.96	233,000	27.7
541	Molalla River near Sandy, Oreg	323	1928-56	36,100	Dec. 23	14.43	26,200	62.5
542	Mudding River near Mount Angel, Oreg	204	1939-56	16,300	Dec. 23	27.83	7,180	36.2
543	Mudding River at Aurora, Oreg	479	1938-56	27,900	Dec. 23	21.18	12,300	25.7
544	Tualatin River at Gaston, Oreg	51	1940-56	4,030	Dec. 21	13.18	8,170	160
545	Seoggin Creek near Gaston, Oreg	44.0	1940-56	3,460	Dec. 21	16.94	6,140	117
546	Tualatin River near Milby, Oreg	133	1940-56	9,460	Dec. 22	14.74	17,200	99.3
547	Gales Creek near Forest Grove, Oreg	66	1940-56	6,410	Dec. 21	11.86	6,300	96.5
548	McKay Creek near North Plains, Oreg	27.6	1940-43; 1940-56	2,100	Dec. 21	11.35	1,000	36.2
549	Tualatin River at Farmington, Oreg	548	1939-56	17,400	Dec. 22	36.03	24,000	43.3
550	Tualatin River near Willamette, Oreg	710	1928-56	29,300	Dec. 23	16.27	21,400	30.2
551	Clackamas River at Big Bottom, Oreg	136	1930-56	4,740	Dec. 21	8.85	6,200	45.6
552	Oak Grove Fork above powerplant intake, Oreg	136	1939-56	5,000	Dec. 23	4.46	2,280	16.1
553	Clackamas River above Thimble Lynn Creek, Oreg	479	1909-13; 1921-56	34,800	Dec. 21	15.06	37,300	77.9
554	Clackamas River near Cazadero, Oreg	620	1909-56	60,600	Dec. 21	21.18	40,000	73.1
555	Johnson Creek at Synamore, Oreg	26.2	1940-56	2,120	Jan. 4	13.23	1,820	64.6
<u>Youngs River Basin</u>								
556	Youngs River near Astoria, Oreg	40.1	1927-56	8,500	Dec. 21	11.40	3,580	89.3
<u>Nehalem River Basin</u>								
557	Nehalem River near Ford, Oreg	567	1930-56	36,900	Dec. 21	19.67	30,200	50.9
<u>Wilson River Basin</u>								
558	Wilson River near Tillamook, Oreg	159	1914-16; 1931-56	30,000	Dec. 21	15.28	21,100	133
<u>Trask River Basin</u>								
559	Trask River near Tillamook, Oreg	142	1931-56	30,300		13.09	20,200	141
<u>Siletz River Basin</u>								
560	Siletz River at Siletz, Oreg	295	1920-12; 1924-56	40,800	Jan. 4	21.02	26,400	111
561	Alder Creek near Hove Lodge, Oreg	7.01	1933-56	96	Dec. 21	11.61	80	1.6
<u>Tillamook River Basin</u>								
562	Elk Creek near Elk City, Oreg	30.0					11,200	100
<u>Alsea River Basin</u>								
563	Alsea River near Tillamook, Oreg	234	1930-56	21,000	Dec. 21	13.80	20,000	85.4
564	South Fork of Alsea River near Tillamook, Oreg	104	1930-56	26	Dec. 21	6.01	26	40.7
<u>Sturgeon River Basin</u>								
565	Sturgeon River at Tillamook, Oreg	10	1931-56	4,100	Dec.	11.1	3,500	35.0
<u>Umpqua River Basin</u>								
566	Jackman Creek near Elsie, Oreg	107	1930-56	17,700	Dec. 21	12.13	10,600	69.3
567	South Umpqua River at Elsie, Oreg	404	1930-11; 1931-56	71,400	Dec. 22	20.06	31,500	73.3
568	Elk Creek near Elsie, Oreg	54.4	1931-56	11,000	Dec. 21	10.34	7,000	100
569	Elk Creek at Elk Creek, Oreg	50.3	1930-56	11,000	Dec. 21	9.54	8,000	81.2
570	Elk Creek near Astoria, Oreg	76	1930-56	6,000	Dec. 21	10.75	1,000	100
571	West Fork of Elk Creek near Astoria, Oreg	61.6	1930-56	6,000	Dec. 21	10.07	2,000	100
572	Elk Creek near Elsie, Oreg	410	1931-56	41,000	Dec. 21	27.32	31,000	80
573	South Fork of Elk Creek near Elsie, Oreg	410	1930-56	41,000	Dec. 21	11.00	2,000	37
574	North Fork of Elk Creek near Elsie, Oreg	410	1930-56	41,000	Dec. 21	11.00	2,000	40.6
575	Lookingglass Creek at Lookingglass, Oreg	10	1930-56	1,000	Dec. 21	10.27	1,000	100
576	South Fork of Elk Creek near Elsie, Oreg	104	1930-56; 1931-56; 1940-56	10,000	Dec. 21	11.00	2,000	100

See footnotes at end of table, page 15.

Maximum stages and discharges on streams in far-Western States--Continued

No.	Stream and place of determination	Drainage area (square miles)	Period of record	Maximum discharge previously recorded (cfs)	Maximum December 1965-January 1966			
					Day	Stage (feet)	Discharge	
							Cfs	Cfs per sq mi
Umpqua River Basin--Continued								
577	Deer Creek near Roseburg, Oreg	53.0	1965-66	^c 6,340	Dec. 26	13.67	6,800	128
578	North Umpqua River below Lemolo Reservoir, near Toketee Falls, Oreg	179	1927-46; 1946-66	1,190	Dec. 22	6.50	^b 660	3.60
579	Clearwater River above Trap Creek near Toketee Falls, Oreg	41.6	1927-66	497	Dec. 22	2.50	455	10.9
579a	Fish Creek at Big Camas ranger station, near Toketee Falls, Oreg	87	1947-66	5,160	Dec. 22	10.90	7,650	114
580	North Umpqua River above Copeland Creek, near Toketee Falls, Oreg	471	1949-66	14,100	Dec. 22	15.05	20,600	43.7
581	Steamboat Creek near Glide, Oreg	227	1955-66	9,800	Dec. 22	17.9	26,900	119
582	North Umpqua River above Rock Creek, near Glide, Oreg	886	1934-43	^c 86,000	Dec. 22	23.1	68,000	76.7
583	Rock Creek near Glide, Oreg	97.4	1955-66	5,350	Dec. 22	12.6	12,300	126
584	Cavitt Creek near Peel, Oreg	56.9	1955-66	1,650	Dec. 26	7.5	4,910	86.3
585	Little River at Peel, Oreg	177	1954-66	9,350	Dec. 22	18.56	15,800	89.3
586	North Umpqua River near Glide, Oreg	1,210	1915-20; 1921-22; 1927-38	^c 94,000	Dec. 22	21.7	90,000	74.4
587	Sutherland Creek at Sutherland, Oreg	16.4	1955-66	416	Dec. 26	7.79	1,250	76.2
588	North Umpqua River at Winchester, Oreg	1,350	1908-13; 1923-29; 1954-66	100,000	Dec. 22	29.14	22,000	69.1
589	Calapooia Creek above Hinkel Creek, near Morgan Hill, Oreg	40.6	1955-66	416	Dec. 21	-----	4,980	102
590	Umpqua River near Elktion, Oreg	3,680	1905-66	^c 218,000	Dec. 22	45.6	218,000	59.2
591	Elk Creek above Bennett Creek, near Yoncalla, Oreg	-----	1955-66	-----	Dec. 26	-----	2,700	-----
592	Yoncalla Creek near Yoncalla, Oreg	26.0	1955-66	-----	Dec. 26	14.48	-----	-----
593	Elk Creek near Drain, Oreg	104	1955-66	4,880	Dec. 26	12.06	9,100	87.6
594	Pais Creek near Drain, Oreg	61.9	1955-66	2,140	Dec. 26	13.57	5,560	89.8
Cope River Basin								
595	Daniels Creek near Eastside, Oreg	14.5	1960-63	1,290	Dec. 21	10.7	1,800	124
596	West Fork Willacoma River near Allegany, Oreg	46.5	1964-66	13,600	Dec. 21	12.06	7,990	172
Coquille River Basin								
597	South Fork Coquille River at Powers, Oreg	189	1916-26; 1926-66	30,500	Dec. 21	19.76	28,000	166
Rogue River Basin								
598	Rogue River above Prospect, Oreg	332	1908-12; 1923-66	11,900	Dec. 22	10.01	^a 16,600	50.0
599	South Fork Rogue River near Prospect, Oreg	79	1924-31; 1949-66	2,540	Dec. 22	8.3	^a 3,250	41.1
600	Red Blasket Creek near Prospect, Oreg	40	1925-66	2,690	Dec. 22	7.30	1,840	46.1
601	Rogue River below South Fork Rogue River, near Prospect, Oreg	643	1929-66	30,500	Dec. 22	17.3	34,000	52.9
602	South Fork Big Butte Creek near Butte Falls, Oreg	136	1910-11; 1915; 1917-32; 1925-66	2,470	Dec. 22	4.43	^a 2,700	20.0
603	Big Butte Creek near McLeod, Oreg	249	1945-66	6,390	Dec. 22	12.76	9,000	36.1
604	Elk Creek near Trail, Oreg	133	1946-66	10,000	Dec. 22	14.34	13,700	103
605	Rogue River at Lodge Bridge, near Eagle Point, Oreg	1,210	1938-66	44,600	Dec. 22	12.8	^a 75,000	62.0
606	South Fork Little Butte Creek near Lake Creek, Oreg	138	1921-66	3,920	Dec. 22	6.83	3,400	24.6
607	North Fork Little Butte Creek near Lake Creek, Oreg	36	1911-13; 1922-28; 1931-66	680	Dec. 22	2.51	^b 281	7.39
608	Dry Creek near Eagle Point, Oreg	13.4	1955-66	-----	Dec. 22	-----	1,020	76.2
609	Emigrant Creek above Bill Creek, near Ashland, Oreg	51.6	1955-66	-----	Dec. 22	-----	2,590	50.0
610	Emigrant Creek near Ashland, Oreg	64.3	1920-66	8,260	Dec. 22	8.56	3,630	56.5
611	Bear Creek at Medford, Oreg	279	1915-66	10,200	Dec. 22	7.60	9,400	33.7
612	Griffin Creek near Jacksonville, Oreg	5.41	1953-66	117	Dec. 21	12.25	74	13.7
613	Rogue River at Raygold, near Central Point, Oreg	2,020	1905-66	21,500	Dec. 22	23.1	110,000	54.5
614	Evans Creek above West Fork, at Meadows Bridge, Oreg	33.7	1941-52	2,630	Dec. 22	7.14	4,620	134
615	Evans Creek at Ryboe Springs, near Rogue River, Oreg	116	1921-27; 1942-66	11,100	Dec. 21	12.1	9,190	78.8
616	Jones Creek near Grants Pass, Oreg	7.59	1981-86	564	Dec. 21	13.12	268	35.3
617	Rogue River at Grants Pass, Oreg	2,420	1939-66	77,000	Dec. 22	29.60	138,000	56.8
618	Applegate River near Copper, Oreg	220	1928-66	15,300	Dec. 21	23.47	20,300	92.3
619	Applegate River near Applegate, Oreg	480	1934-66	26,100	Dec. 21	18.0	^a 47,800	99.6
620	Powell Creek near Williams, Oreg	9.6	1946-66	1,110	Dec. 22	5.73	1,400	161
621	Butcherknife Creek near Wonder, Oreg	2.98	1923-66	365	Dec. 21	16.84	367	123
622	Slate Creek at Wonder, Oreg	30.9	1913; 1942-66	4,020	Dec. 21	9.60	3,920	127
623	Round Prairie Creek near Wilderville, Oreg	3.36	1926-66	305	Dec. 21	6.30	255	86.6
624	Jumpoff Joe Creek near Marlin, Oreg	28	1920; 1929; 1932-66	3,300	Dec. 21	7.0	2,790	96.4
625	Grave Creek at Peace Bridge, near Placer, Oreg	22	1946-66	3,550	Dec. 21	9.66	4,570	200
626	East Fork Willacoma River near Takima, Oreg	42.6	1941-66	6,790	Dec. 22	10.95	8,230	193
627	Sucker Creek near Holland, Oreg	76	1941-66	6,580	Dec. 22	2.96	7,150	94.1
628	West Fork Willacoma River below Buck Creek, near Elkhart, Oreg	42.4	1944-66	^a 14,200	Dec. 22	14.79	12,100	285
629	Willacoma River at Astor, Oreg	364	1926-66	50,000	Dec. 22	14.4	50,000	136
630	Deer Creek near Dryden, Oreg	23	1941-66	^c 5,000	Dec. 21	7.7	4,430	191
Willamette River Basin								
631	Willamette River near Brookings, Oreg	75	1953-66	290	Dec. 21	21.06	220	268

See footnotes page 15.

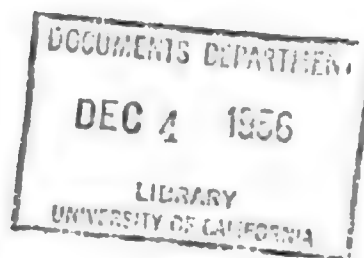
- a Provisional.
- b 519 sq mi above Lake Tahoe outlet noncontributing.
- c Occurred outside period of record.
- d Includes 46 sq mi in Cowhead Lake basin.
- e Affected by storage and (or) diversion.
- f About.
- g Furnished by Duryea, Haskl, and Gilman.
- h Does not include water bypassing through Mud Slough.
- i Stage.
- j Gaging station on Rock Creek downstream from mouth of Woodruff Creek.
- k Combined discharge of station at Verona and Fremont weir, 315,000 cfs.
- l Mean daily discharge.
- m Including Crater Lake basin.
- n Not including Lost River or Lower Klamath Lake basins.
- o Affected by failure of flashboards on Hyatt Prairie Reservoir.
- p Contents in acre-feet.
- q Flow completely controlled.
- r Runoff from area below Deadwood Reservoir.
- s Reservoir gates open during December 1955 and January 1956.
- t Includes flow in Pacific Power & Light Co. conduit.
- u Includes Little Wind River drainage area.
- v Does not include Amazon Creek drainage area.
- w Affected by failure of reservoir outlet gate.
- x Includes flow in Oswego Canal, which is complementary to river record.
- y Records since 1922 published in State reports only.
- z At site downstream (drainage area, 49.6 sq mi).

7 DAY USE

U.S. GEOLOGICAL SURVEY CIRCULAR 381



INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955
PART 1.—NORTH ATLANTIC SLOPE BASINS



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 381

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 1.—NORTH ATLANTIC SLOPE BASINS

By C. E. Knox

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 1.—NORTH ATLANTIC SLOPE BASINS

By C. E. Knox

EXPLANATION

This index lists the streamflow and reservoir stations in the North Atlantic slope basins for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indentation and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indentation in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 24 to 30.

INDEX, PART 1, NORTH ATLANTIC SLOPE BASINS

PART 1-A, MAINE TO CONNECTICUT

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>St. John River basin</u>		
St. John River at Ninemile Bridge, Maine.....	a/1,290	1950-
St. John River at (near) Dickey, Maine.....	a/2,700	1910-11†; 1946-
Allagash River near Allagash, Maine.....	b/1,250	1910-11‡; 1931-
St. Francis River at outlet of Glazier Lake, near Connors, New Brunswick.....	496	1951-
St. Francis River near St. Francis, Maine.....	a/560	1910-11‡.
St. John River at Fort Kent, Maine.....	b/4,790	1906-15.
Fish River at Wallagrass, Maine.....	860	1903-8; 1911.
Fish River near Fort Kent, Maine.....	871	1929-
St. John River (at Fort Kent) below Fish River, at Fort Kent, Maine.....	b/5,690	1926-
Madawaska River at Ste. Rose du Degele, Quebec.....	a/1,010	1910-11‡.
St. John River at Van Buren, Maine.....	b/8,270	1908-28.
<u>Aroostook River:</u>		
Millinocket Lake in T. 7, R. 9, Maine.....	74.1	1947-50†.
Squa Pan Lake in T. 10, R. 4, Maine.....	67.1	1932-50†.
Machias River near Ashland, Maine.....	328	1951-
Aroostook River at Washburn, Maine.....	a/1,620	1930-
Aroostook River at Fort Fairfield, Maine.....	a/2,330	1903-11.
Meduxnekeag River near Houlton, Maine.....	175	1940-
<u>St. Croix River basin</u>		
St. Croix River at Vanceboro, Maine.....	a/435	1928-
Grand Lake Stream at Grand Lake Stream, Maine.....	224	1928-
West Branch St. Croix River at Baileyville, Maine.....	509	1910-12*.
St. Croix River near Baileyville, Maine.....	a/1,320	1919-
St. Croix River at Spragues Falls (at Woodland), near Baring, Maine.....	a/1,350	1902-5.
St. Croix River at Baring, Maine.....	a/1,390	1914†††.
<u>Machias River basin</u>		
Machias River at Whitneyville, Maine.....	457	1905-21; 1929-
East Machias River near East Machias, Maine.....	251	1926-
<u>Narraguagus River basin</u>		
Narraguagus River at Cherryfield, Maine.....	232	1948-
<u>Union River basin</u>		
West Branch Union (Union) River at Amherst, Maine.....	148	1909-19; 1929-
East Branch Union River near Waltham, Maine.....	123	1909.
Webb Brook at Waltham, Maine.....	50	1909.
Green Lake (head of Green Lake Stream) at Green Lake, Maine..	-	1909-12*.
Green Lake Stream at Lakewood, Maine.....	47	1909-14.
Branch Lake (head of Branch Lake Stream) near Ellsworth, Maine	-	1909-14*.
Branch Lake Stream near Ellsworth, Maine.....	31	1909-14.
Union River at Ellsworth, Maine.....	537	1909†††.
<u>Penobscot River basin</u>		
<u>West Branch Penobscot River:</u>		
Reservoirs in West Branch Penobscot River basin, Maine.....	-	1901-†
West Branch Penobscot River at Millinocket, Maine.....	a/1,910	1901-50.
West Branch Penobscot River near Medway, Maine.....	2,120	1916-40.
<u>East Branch Penobscot River:</u>		
Telos Lake in T. 6, R. 11, Maine.....	240	1942-†
Grand Lake in T. 6, R. 8 (East Branch Penobscot River at Grand Lake), Maine.....	c/484	1912‡; 1942-†
East Branch Penobscot River at Grindstone, Maine.....	c/1,070	1902-
Penobscot River near Mattawamkeag, Maine.....	c/3,310	1940-
Mattawamkeag River near Mattawamkeag, Maine.....	a/1,400	1934-
Mattawamkeag River at Mattawamkeag, Maine.....	a/1,500	1902-34
Piscataquis River near Dover-Foxcroft (at Lows Bridge near Foxcroft) (near Foxcroft), Maine.....	297	1902-
<u>Sebec River:</u>		
Wilson Pond near Greenville, Maine.....	36	1932-†
Sebec Lake at Sebec, Maine.....	327	1924-†
Sebec River at Sebec, Maine.....	327	1924-
Pleasant River near (at) Milo, Maine.....	322	1920-
Piscataquis River at Medford, Maine.....	1,161	1924-
Penobscot River at West Enfield (Montague), Maine.....	c/6,600	1901-
Passadumkeag River at Lowell, Maine.....	299	1915-
Cold Stream at Enfield, Maine.....	28.5	1904-6.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Discharge measurements only.

a/ Approximately.

b/ Approximately; not including 240 sq mi drained by Chamberlain Lake through Telos Canal.

c/ Approximately; includes 240 sq mi drained by Chamberlain Lake through Telos Canal.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Penobscot River basin--Continued</u>		
Penobscot River at Passadumkeag, Maine.....	a/7,000	1938-
Kenduskeag Stream near Kenduskeag, Maine.....	178	1941-
Kenduskeag Stream near Bangor, Maine.....	195	1908-19.
<u>St. George River basin</u>		
St. George River at Union, Maine.....	116	1914-15.
<u>Sheepscot River basin</u>		
Sheepscot River at North Whitefield, Maine.....	148	1938-
<u>Kennebec River basin</u>		
Moose River (head of Kennebec River):		
Brassua Lake near Rockwood, Maine.....	708	1928-†
Moose River near Rockwood, Maine.....	708	1902-8; 1910-12; 1919-25.
<u>Moosehead Lake:</u>		
Second Roach Pond near Kokadjo, Maine.....	19	1927-†
First Roach Pond near Kokadjo, Maine.....	85	1927-†
Moosehead Lake at East Outlet, Maine.....	a/1,240	1895-†
Kennebec River at Moosehead, Maine.....	a/1,240	1919-
Indian Pond near Moosehead, Maine.....	a/1,350	1953-†
Moxie Pond near The Forks, Maine.....	89	1927-†
Kennebec River at The Forks, Maine.....	a/1,570	1901-
<u>Dead River:</u>		
Flagstaff Lake near Dead River, Maine.....	520	1949-†
Dead River near Dead River, Maine.....	520	1939-
Dead River Pond at Dead River Dam, Maine.....	546	1927-1953.
<u>Spencer Stream:</u>		
Spencer Lake at Spencer Lake Outlet, Maine.....	48	1927-†
Dead River at The Forks, Maine.....	872	1901-7; 1910-
Wyman Pond near Bingham, Maine.....	2,612	1930-†
Austin Stream at Bingham, Maine.....	91.1	1931-
Kennebec River at Bingham, Maine.....	a/2,710	1907-10; 1930-
Carrabassett River near North Anson, Maine.....	354	1902-7; 1925-
Sandy River near Farmington, Maine.....	242	1910-15.
Sandy River near Mercer, Maine.....	514	1928-
Kennebec River at Waterville, Maine.....	a/4,270	1893-50.
Sebasticook River near Pittsfield, Maine.....	579	1928-
Cobbosseecontee Stream at Gardiner, Maine.....	217	1890-
<u>Androscoggin River basin</u>		
Kennebago Lake (head of Androscoggin River) at Kennebago, Maine.	112	1931-†
<u>Kennebago River:</u>		
Rangeley Lake (head of Rangeley River) at Oguossoc, Maine....	90	1931-†
Mooselookmeguntic Lake at Upper Dam, Maine.....	405	1880-†
Upper and Lower Richardson Lakes at Middle Dam, Maine.....	509	1900-†
<u>Umbagog Lake:</u>		
Aziscohos Lake at Aziscohos Dam, Maine.....	214	1911-†
<u>Magalloway River:</u>		
Diamond River near Wentworth Location, N. H.....	153	1941-
Umbagog Lake at Errol Dam, N. H.....	1,045	1879-†
Androscoggin River at Errol (Errol Dam), N. H.....	1,045	1905-22; 1922-43†; 1943-
Androscoggin River near Gorham (at Berlin), N. H.....	1,363	1913-22; 1922-29†; 1929-
Androscoggin River at Rumford, Maine.....	2,067	1892-1903; 1903-4†; 1904-
Swift River near Roxbury, Maine.....	95.8	1929-
Nezinscot River at Turner Center, Maine.....	171	1941-
Gulf Island Pond near Lewiston, Maine.....	2,860	1926-†
Lake Auburn at East Auburn, Maine.....	17.7	1928-†
Little Androscoggin River near South Paris, Maine.....	76.2	1913-24; 1931-
Pennesseewassee Lake at Norway, Maine.....	21.1	1931-†
Thompson Lake at Oxford, Maine.....	46.0	1928-†
Little Androscoggin River near Auburn, Maine.....	328	1940-
Androscoggin River near Auburn, Maine.....	3,257	1928-
Cathance River near Topsham, Maine.....	36.4	1952-55.
<u>Royal River basin</u>		
Royal River at Yarmouth, Maine.....	142	1949-
<u>Presumpscot River basin</u>		
<u>Sebago Lake:</u>		
Panther Pond near Raymond, Maine.....	30	1920-†
Thomas Pond near South Casco, Maine.....	5.3	1919-†
<u>Songo River:</u>		
<u>Crooked River:</u>		
Pleasant Lake at Casco, Maine.....	10.1	1919-†

† Monthly figures of discharge or contents only.

a/ Approximately.

c/ Approximately; includes 240 sq mi drained by Chamberlain Lake through Telos Canal.

INDEX, PART 1, NORTH ATLANTIC SLOPE BASINS

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Presumpscot River basin--Continued</u>		
<u>Sebago Lake--Continued</u>		
<u>Songo River--Continued</u>		
Long Lake:		
Crystal Lake at Harrison, Maine.....	9.60	1919-†
Highland Lake at Bridgton, Maine.....	20	1919-†
Long Lake near Songo Lock, Maine.....	120	1920-†
Sebago Lake near North Windham, Maine.....	433	1920-†
Presumpscot River at outlet of Sebago Lake, Maine.....	436	1887-
<u>Saco River basin</u>		
Saco River near Conway (at Center Conway), N. H.....	386	1903-10; 1910-12*; 1929-
Ossipee River at Effingham Falls, N. H.....	330	1942-
Ossipee River at Cornish, Maine.....	453	1916-
Saco River at Cornish, Maine.....	1,298	1916-
Little Ossipee River near South Limington, Maine.....	161	1940-
Saco River at West Buxton, Maine.....	1,572	1907-16; 1919-40.
Saco River at Salmon Falls, Maine.....	1,595	1938-48.
<u>Mousam River basin</u>		
Square Pond near Acton, Maine.....	5.0	1940-†
Mousam Lake at Emery Mills, Maine.....	31.0	1940-†
Estes Pond near Sanford, Maine.....	104	1941-†
Mousam River near West Kennebunk, Maine.....	105	1939-
<u>Piscataqua River basin</u>		
Salmon Falls River (head of Piscataqua River):		
Great East Lake near Milton Mills, N. H.....	12.0	1929-†
Horn Pond near Milton Mills, N. H.....	16.9	1929-†
Wilson Lake near Milton Mills, N. H.....	15.5	1929-†
Three Ponds at Milton Mills, N. H.....	105	1929-†
Lovell Lake at Sanbornville, N. H.....	10.0	1929-†
Salmon Falls River near South Lebanon (Lebanon), Maine.....	147	1928-
Oyster River near Durham, N. H.....	12.1	1934-
Lamprey River near Newmarket, N. H.....	183	1934-
<u>Merrimack River basin</u>		
Pemigewasset (Middle Branch Pemigewasset) River (head of Merrimack River) at North Woodstock, N. H.....	28.6	1911-12.
East Branch Pemigewasset River near Lincoln, N. H.....	104	1928-53.
Pemigewasset River at Woodstock, N. H.....	193	1939-
Baker River at Wentworth, N. H.....	58.8	1940-52.
Baker River near Rumney, N. H.....	143	1928-
Pemigewasset River at Plymouth, N. H.....	622	1903-
Squam River at Ashland, N. H.....	57.6	1939-
Newfound Lake near Bristol, N. H.....	58	1941-†
Smith River near Bristol, N. H.....	85.8	1918-
Franklin Falls Reservoir near Franklin, N. H.....	1,000	1942-†
<u>Lake Winnepesaukee:</u>		
Merrymeeting Lake near Alton, N. H.....	a/10	1942-†
Lake Wentworth at Wolfeboro Falls, N. H.....	a/23	1942-†
Lake Winnepesaukee at The Weirs, N. H.....	-	1933-37†; 1937-
Lake Winnepesaukee Outlet (Lake Winnepesaukee) at Lakeport, N. H.....	363	1860-1911†; 1933-
Winnepesaukee River at Tilton, N. H.....	471	1937-
Merrimack River at Franklin Junction, N. H.....	1,507	1903-
Contoocook River at Peterboro, N. H.....	68.1	1945-
Edward MacDowell (MacDowell) Reservoir at West Peterboro, N. H.....	44	1950-†
Nubanusit Brook near Peterboro, N. H.....	46.9	1920-31; 1945-
Contoocook River near Elmwood, N. H.....	168	1917-24.
North Branch Contoocook River near Antrim, N. H.....	54.8	1924-
Beards Brook near Hillsboro, N. H.....	55.4	1945-
Contoocook River near Henniker, N. H.....	358	1939-
Contoocook River at West Hopkinton, N. H.....	410	1903-7.
Warner River at Davisville, N. H.....	146	1939-
Blackwater Reservoir near Webster, N. H.....	128	1942-†
Blackwater River near Webster, N. H.....	129	1934-
Blackwater River near Contoocook, N. H.....	134	1918-20; 1927-35.
Contoocook River at Penacook, N. H.....	766	1928-
Merrimack River at Garvins Falls, N. H.....	2,427	1904-15.
Soucook River near Concord, N. H.....	76.8	1951-
Suncook River at North Chichester, N. H.....	157	1918-27; 1928-
Suncook River at East Pembroke, N. H.....	270	1904-5*.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** Monthly gage heights only.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Merrimack River basin--Continued</u>		
Merrimack River at Manchester, N. H.....	2,854	1924-50.
Piscataquog River:		
South Branch Piscataquog River near Goffstown, N. H.....	104	1940-
Piscataquog River near Goffstown, N. H.....	202	1939-
Merrimack River near Goffs Falls, below Manchester, N. H.....	3,092	1936-
Cohas Brook:		
Massabesic Lake:		
Tower Hill Pond near Auburn, N. H.....	12.5	1939-†
Clark Brook at Auburn, N. H.....	27.8	1938-
Massabesic Lake near Manchester, N. H.....	43	1941-†
Souhegan River at Merrimack, N. H.....	171	1909-
North Nashua River (head of Nashua River) near Leominster, Mass.	107	1935-
South Branch Nashua River:		
Stillwater River:		
Rocky Brook near Sterling, Mass.....	2.28	1946-
South Branch Nashua River at Clinton, Mass.....	107.69	1896-†
Squannacook River near West Groton, Mass.....	d/64.9	1949-
Nashua River at East Pepperell, Mass.....	e/433	1935-
Assabet River (head of Concord River) at Maynard, Mass.....	116	1941-
Sudbury River at Framingham Center, Mass.....	75.2	1875-†
Hop Brook (head of Wash Brook):		
Marlboro Brook near Maynard, Mass.....	-	1955
Lake Cochituate Outlet at Cochituate, Mass.....	17.40	1863-†
Concord River at Lowell, Mass.....	f/381	1901-16.
Concord River below River Meadow Brook, at Lowell, Mass.....	g/405	1936-
Merrimack River below Concord River, at Lowell, Mass.....	h/4,635	1923-
Merrimack River at Lawrence, Mass.....	i/4,672	1879-1950.
<u>Parker River basin</u>		
Parker River at Byfield, Mass.....	21.6	1945-
<u>Ipswich River basin</u>		
Ipswich River at South Middleton, Mass.....	43.4	1938-
Ipswich River near Ipswich (at Willowdale), Mass.....	124	1930-
<u>Mystic River basin</u>		
Aberjona River (head of Mystic River) at Winchester, Mass.....	j/24.7	1939-
Mystic Lake near Medford, Mass.....	26.9	1878-97†.
<u>Charles River basin</u>		
Charles River at Charles River Village, Mass.....	184	1937-
Mother Brook at Dedham, Mass.....	-	1931-
Charles River at Waltham, Mass.....	k/251	1903-9***; 1931-
<u>Neponset River basin</u>		
Neponset River at Norwood, Mass.....	35.2	1939-
East Branch Neponset River at Canton, Mass.....	26.7	1952-
<u>Westport River basin</u>		
Westport River:		
West Branch Westport River:		
Adamsville Brook at Adamsville, R. I.....	8.6	1940-
<u>Taunton River basin</u>		
Matfield River (head of Taunton River) at Elmwood, Mass.....	-	1909-10†††.
Satucket River near Elmwood, Mass.....	-	1909-10†††.
Taunton River at Titicut, near Bridgewater, Mass.....	185	1920-25.
Taunton River at State Farm, Mass.....	260	1929-
Three Mile River:		
Wading River at West Mansfield, Mass.....	19.2	1953-
Wading River near Norton, Mass.....	42.4	1925-
<u>Providence River basin</u>		
Kettle Brook (Blackstone River)(head of Providence River)		
at Worcester, Mass.....	31.3	1923-
Quinsigamond River at North Grafton, Mass.....	25.5	1939-
Blackstone River (continuation of Kettle Brook)		
at Northbridge, Mass.....	139	1939-
Mumford River at East Douglas, Mass.....	27.8	1939-51.

† Monthly figures of discharge or contents only.

*** Weekly discharge only.

††† Discharge measurements only.

d/ Total area; net area, 62.8 sq mi.

e/ Total area; net area, 316 sq mi.

f/ Total area; net area, 288 sq mi.

g/ Total area; net area, 312 sq mi.

h/ Total area; net area, 4,425 sq mi.

i/ Total area; net area, 4,462 sq mi.

j/ Total area; net area, 23.3 sq mi.

k/ Total area; net area, 227 sq mi.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Providence River basin--Continued</u>		
<u>Blackstone River--Continued</u>		
Branch River at Forestdale (Branch Village), R. I.....	93.3	1909*; 1912-13*; 1940-
Blackstone River near Woonsocket, R. I.....	360	1904-5*.
Blackstone River at Woonsocket, R. I.....	416	1929-
Blackstone River at Albion, R. I.....	433	1914-16.
Blackstone River at Berkeley, R. I.....	-	1901-2*.
Seekonk River (continuation of Blackstone River):		
Tenmile River near Rumford, R. I.....	-	1909*.
<u>Providence River:</u>		
Woonasquatucket River at Centerdale, R. I.....	38.3	1941-
Woonasquatucket River at Olneyville, R. I.....	-	1910*.
<u>Pawtuxet River basin</u>		
Pawtuxet River at Fiskeville, R. I.....	92.8	1915-25; 1925-50+.
South Branch Pawtuxet River at Washington, R. I.....	63.8	1940-
Pawtuxet River at Cranston, R. I.....	200	1939-
<u>Potowomut River basin</u>		
Potowomut River near East Greenwich, R. I.....	23.0	1940-
<u>Pawcatuck River basin</u>		
Pawcatuck (Charles) River at Wood River Junction, R. I.....	100	1940-
Wood River at Hope Valley, R. I.....	72.4	1909*; 1941-
Pawcatuck River at Westerly, R. I.....	295	1940-52.
<u>Poquonock River basin</u>		
Great Brook (head of Poquonock River) at Poquonock Bridge, Conn.	14.3	1946-
<u>Thames River basin</u>		
<u>Willimantic River (head of Thames River)</u>		
near South Coventry, Conn.....	121	1931-
Hop River near Columbia, Conn.....	76.2	1932-
Still River (head of Natchaug River):		
Bungee Brook:		
Safford Brook near Woodstock Valley, Conn.....	4.08	1950-
Mount Hope River near Warrenville, Conn.....	29.1	1940-
Mansfield Hollow Reservoir at Mansfield Hollow, Conn.....	159	1952-
Natchaug River at Willimantic, Conn.....	169	1930-
Shetucket River (continuation of Willimantic River)		
near Willimantic (at South Windham), Conn.....	401	1904-5; 1919-21; 1928-
Little River near Hanover, Conn.....	29.8	1951-
Quinebaug River at Westville, Mass.....	93.8	1939-
Quinebaug River at Quinebaug, Conn.....	157	1931-
<u>French River:</u>		
Little River at Buffumville, Mass.....	27.7	1939-
French River at Webster, Mass.....	85.3	1948-
Quinebaug River at Putnam, Conn.....	331	1929-
Five Mile River at Killingly, Conn.....	58.2	1937-
Moosup River at Moosup, Conn.....	83.5	1932-
Quinebaug River at Jewett City, Conn.....	711	1918-
Yantic River at Yantic, Conn.....	88.6	1930-
<u>Connecticut River basin</u>		
<u>First Connecticut and Second Connecticut Lakes near</u>		
Pittsburg, N. H.....	-	1916-tm/
<u>Connecticut River at First Connecticut Lake, near</u>		
Pittsburg, N. H.....	83.0	1917-
Lake Francis at Pittsburg, N. H.....	170	1940-†
Connecticut River at North Stratford, N. H.....	799	1930-
Upper Ammonoosuc River near Groveton, N. H.....	232	1940-
Israel River above South Branch near		
Jefferson Highlands, N. H.....	8.7	1903-6.
Israel River below South Branch near		
Jefferson Highlands, N. H.....	21.2	1903-7.
Connecticut River near Dalton, N. H.....	1,514	1935-
Connecticut River at Waterford, Vt.....	1,591	1927-35.
Comerford Station Pond.....	1,650	1930-†
East Branch Passumpsic (Passumpsic) River near East Haven, Vt.	53.8	1939-45; 1948-
Passumpsic River at Pierce's Mills, near St. Johnsbury, Vt....	237	1909-19.
Passumpsic River at St. Johnsbury Center, Vt.....	244	1903*.
Moose River at Victory, Vt.....	75.2	1947-
Moose River at St. Johnsbury, Vt.....	128	1928-
Passumpsic River at Passumpsic, Vt.....	435	1928-
Stevens River at West Barnet, Vt.....	22.2	1939-45.
Ammonoosuc River at Bretton Woods, N. H.....	a/34	1903-7.
Little River near Twin Mountain, N. H.....	a/11	1904-5*.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

m/ Gage heights, 1916-30.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Connecticut River basin--Continued</u>		
Connecticut River--Continued		
Ammonoosuc River at Bethlehem Junction, N. H.....	87.6	1939-
Ammonoosuc River near Bath, N. H.....	395	1935-
Connecticut River at Wells River, Vt.....	2,644	1949-
Wells River at Wells River, Vt.....	98.4	1940-
Connecticut River at South Newbury, Vt.....	2,825	1918-50.
Waits River:		
South Branch Waits River near Bradford, Vt.....	42.7	1939-51.
Connecticut River at Orford, N. H.....	3,100	1900-21.
Union Village Reservoir.....	128	1949-†
Ompompanoosuc River at Union Village, Vt.....	130	1940-
White River near Bethel, Vt.....	241	1931-
Third Branch White River:		
Ayers Brook at Randolph, Vt.....	30.5	1939-
Second Branch White River at North Randolph, Vt.....	a/27	1920-21.
White River at Sharon, Vt.....	654	1903-4; 1909-11.
White River at West Hartford, Vt.....	690	1915-27; 1927-28†; 1928-
Connecticut River at White River Junction, Vt.....	4,092	1911-
Mascoma River at West Canaan, N. H.....	80.5	1939-
Lakes and ponds in Mascoma River basin.....	-	1919-†
Mascoma River at Mascoma, N. H.....	153	1923-
Ottawaquechee River at Woodstock, Vt.....	125	1928-30.
Ottawaquechee River at North Hartland, Vt.....	221	1930-
Sunapee Lake (head of Sugar River) at Sunapee, N. H.....	45.5	1928-†
Sugar River at West Claremont (Claremont), N. H.....	269	1928-
Black River at North Springfield, Vt.....	158	1929-
Williams River at Brookway Mills, Vt.....	103	1940-
Saxtons River at Saxtons River, Vt.....	72.2	1940-
Connecticut River at North Walpole, N. H.....	5,493	1942-
Cold River at Drewsville, N. H.....	82.7	1940-
West River at Jamaica, Vt.....	179	1946-
West River at Newfane, Vt.....	308	1919-23; 1928-
Connecticut River at Vernon, Vt.....	6,286	1936; 1938; 1944-
Ashuelot River near Gilsum, N. H.....	71.1	1922-
Surry Mountain Reservoir.....	100	1942-†
Ashuelot River below Surry Mountain Dam, near Keene, N. H.....	101	1945-
The Branch:		
Otter Brook near Keene, N. H.....	42.3	1923-
Minnewawa Brook:		
Pratt Brook at Chesham, N. H.....	11.2	1919-1921.
Minnewawa Brook at Marlboro, N. H.....	31.7	1919-1922.
South Branch Ashuelot River at Webb, near Marlboro, N. H....	36.0	1920-
Ashuelot River at Winchester, N. H.....	355	1903-4*.
Ashuelot River at Hinsdale, N. H.....	420	1907-1911; 1914-
Millers River:		
Tarbell (Sip Pond) Brook near Winchendon, Mass.....	18.2	1916-
Millers River near Winchendon, Mass.....	83.0	1916-
Priest Brook near Winchendon, Mass.....	19.4	1916-
Otter River near Gardner, Mass.....	20.0	1916-1917.
Birch Hill Reservoir.....	175	1942-†
Millers River at South Royalston, Mass.....	187	1939-
Tully Reservoir.....	50.4	1948-†
East Branch Tully River near Athol, Mass.....	50.4	1916-
Moss Brook at Wendell Depot (Wendell), Mass.....	12.3	1909-10; 1916-
Millers River at Wendell, Mass.....	354	1909.
Millers River at Erving, Mass.....	375	1914-
Connecticut River at Turners Falls, Mass.....	7,163	1915-
Deerfield River:		
East Branch Deerfield River at Somerset Reservoir, Vt.....	30.0	1912-16.
Somerset and Harriman Reservoirs.....	-	1913-†
Deerfield River at Charlemont, Mass.....	362	1913-
North River at Shattuckville, Mass.....	88.4	1939-
Deerfield River at Shelburne Falls, Mass.....	500	1907-15.
Deerfield River near West Deerfield (at Deerfield), Mass.....	558	1904-5*; 1940-
Connecticut River at Montague City, Mass.....	7,865	1929-
Connecticut River at Sunderland, Mass.....	7,915	1904-32.
Mill River at Northampton, Mass.....	52.8	1938-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

INDEX, PART 1, NORTH ATLANTIC SLOPE BASINS

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Connecticut River basin--Continued</u>		
Connecticut River at Holyoke, Mass.....	8,309	1880-99; 1936; 1938.
Ware River (head of Chicopee River), near Barre, Mass.....	55.0	1946-
Ware River at Coldbrook, Mass.....	96.8	1928-
Ware River at Gibbs Crossing, Mass.....	199	1912-
Swift River:		
Hop Brook near New Salem, Mass.....	3.39	1947-
East Branch Swift River near Hardwick (Dana), Mass.....	43.7	1937-
Quabbin Reservoir near West Ware, Mass.....	186	1939-†
Swift River at West Ware, Mass.....	188	1910-
Quaboag River at West Brimfield, Mass.....	151	1909-
Ludlow Reservoir, Mass.....	-	1950-†
Chicopee River at Indian Orchard (Bircham Bend), Mass.....	688	1928-
Watershops Pond at Springfield, Mass.....	33.9	1939-†
Mill River at Springfield, Mass.....	33.9	1938-51.
Westfield River at West Chesterfield, Mass.....	111	1946-51.
Knightville Reservoir at Knightville, Mass.....	162	1941-†
Westfield River at Knightville, Mass.....	162	1909-
Sykes Brook at Knightville, Mass.....	1.64	1945-
Middle Branch Westfield River at Goss Heights, Mass.....	52.6	1910-
West Branch Westfield River at Huntington, Mass.....	93.7	1935-
Westfield River at Russell, Mass.....	331	1904-5*.
Westfield Little River:		
Borden Brook near Westfield (Blandford), Mass.....	a/8	1910-18:
Borden Brook and Cobble Mountain Reservoirs.....	-	1909-†
Westfield Little River (near Blandford and near Westfield) at outlet of Cobble Mountain Reservoir, near Westfield, Mass.....	45.8	1905-22; 1922-†
Westfield River near Westfield, Mass.....	497	1914-
Connecticut River at Thompsonville, Conn.....	9,661	1928-
Scantic River at Broad Brook, Conn.....	98.4	1928-
West Branch Farmington River:		
Otis Reservoir at Cold Spring, Mass.....	17.2	1913-†
West Branch Farmington River (Farmington River) near New Boston, Mass.....	92.0	1913-
West Branch Farmington River above Still River, at Riverton, Conn.....	130	1955-
Still River at Robertsville, Conn.....	84.4	1948-
West Branch Farmington River (Farmington River) at Riverton, Conn.....	216	1929-55.
East Branch Farmington River:		
Barkhamsted, East Branch, and Nepaug Reservoirs.....	-	1928-†
Farmington River:		
Burlington Brook near Burlington, Conn.....	4.12	1931-
Pequabuck River:		
Copper Mine Brook:		
Whigville Reservoir at Whigville, Conn.....	3.95	1928-†
Pequabuck River at Forestville, Conn.....	45.2	1941-
Salmon Brook near Granby, Conn.....	60.8	1946-
Farmington River at Rainbow (at Tariffville), Conn.....	584	1928-
South Branch Park River at Hartford, Conn.....	40.6	1936-
North Branch Park River at Hartford, Conn.....	25.3	1936-
Park River at Hartford, Conn.....	74.0	1936-
Hockanum River:		
Shenipsit Lake at Rockville, Conn.....	16.5	1919-21†; 1928-†
Hockanum River near East Hartford, Conn.....	74.5	1919-21; 1928-
Connecticut River near Middletown, Conn.....	10,870	1947-
Salmon River near East Hampton, Conn.....	105	1928-
East Branch Eightmile River near North Lyme, Conn.....	22.0	1937-
West Branch Eightmile River at North Plain (near North Lyme), Conn.....	18.6	1937-
<u>Menunketesuck River basin</u>		
Menunketesuck River near Clinton, Conn.....	11.6	1941-
<u>Quinnipiac River basin</u>		
Quinnipiac River at Southington, Conn.....	17.6	1935-38.
Eightmile River at Plantsville, Conn.....	14.9	1935-38.
Quinnipiac River at Wallingford, Conn.....	109	1930-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

PART 1-A, MAINE TO CONNECTICUT

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<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Housatonic River basin</u>		
East Branch Housatonic River (Housatonic River) at Coltsville, Mass.....	57.1	1936-
Housatonic River near Great Barrington, Mass.....	280	1913-
Green River near Great Barrington, Mass.....	52.5	1951-
Blackberry River at Canaan, Conn.....	48.2	1949-
Housatonic River at Falls Village, Conn.....	632	1912-
Tenmile River at Dover Plains, N. Y.....	189	1901-3.
Tenmile River near Gaylordsville, Conn.....	204	1929-
Housatonic River at Gaylordsville, Conn.....	994	1900-14*; 1940-
Lake Candlewood near New Milford, Conn.....	40.4	1928-†
Still River near Lanesville, Conn.....	68.5	1931-
Shepaug Reservoir at Woodville, Conn.....	38.0	1933-†
Shepaug River at Woodville, Conn.....	38.0	1935-
Shepaug River near Roxbury, Conn.....	133	1930-
Lake Lillinonah near Newtown, Conn.....	1,392	1955-†
Pomperaug River at Southbury, Conn.....	75.3	1932-
Pomperaug River at Bennets Bridge, Conn.....	89.3	1913-16.
Lake Zoar at Stevenson, Conn.....	1,545	1928-†
Housatonic River at Stevenson, Conn.....	1,545	1928-
Naugatuck River near Thomaston, Conn.....	71.9	1930-
Leadmine Brook near Thomaston, Conn.....	24.0	1930-
Branch Brook:		
Pitch Reservoir near Thomaston, Conn.....	5.74	1943-
Morris Reservoir near Thomaston, Conn.....	13.3	1918-24; 1928-
Wigwam Reservoir near Thomaston, Conn.....	18.1	1918-24; 1928-
Naugatuck River near Naugatuck, Conn.....	246	1918-24; 1928-
<u>Saugatuck River basin</u>		
Saugatuck Reservoir near Lyons Plain, Conn.....	33.5	1942-
Saugatuck River near Westport, Conn.....	77.5	1932-
<u>Mianus River basin</u>		
Mianus River at Bedford, N. Y.....	10.4	1903.
Mianus River near Stamford, Conn.....	28.8	1903*.
Mianus River at North Mianus, Conn.....	29.9	1920-22.
<u>Byram River basin</u>		
West Branch Byram River near Port Chester, N. Y.....	11.2	1903.
East Branch Byram River:		
Middle Branch Byram River near Riverville, Conn.....	-	1903*.
Byram River at Pemberwick, Conn.....	27.2	1903.

PART 1-B, NEW YORK TO YORK RIVER

<u>Blind Brook basin</u>		
Blind Brook at Nye, N. Y.....	9.20	1943-
<u>Beaver Swamp Brook basin</u>		
Beaver Swamp Brook near Harrison, N. Y.....	4.71	1943-
<u>Mamaroneck River basin</u>		
Mamaroneck River at Mamaroneck, N. Y.....	23.4	1943-
<u>Hutchinson River basin</u>		
Hutchinson River at Pelham, N. Y.....	5.76	1943-
<u>Bronx River basin</u>		
Bronx River at Bronxville, N. Y.....	44.6	1943-
<u>Streams on Long Island</u>		
Cedar Swamp Creek at Glen Cove, N. Y.....	11	1938-
Mill Neck Creek at Mill Neck, N. Y.....	11.5	1937-
Cold Spring Brook at Cold Spring Harbor, N. Y.....	7.3	1950-
Nissequogue River near Smithtown, N. Y.....	27	1943-
Peconic River at Riverhead, N. Y.....	75	1942-
Carman's River at Yaphank, N. Y.....	71	1942-
Swan River at East Patchogue, N. Y.....	8.8	1946-
Patchogue Creek at Patchogue, N. Y.....	13.5	1945-
Connetquot River near Oakdale, N. Y.....	24	1943-
Champlin Creek at Islip, N. Y.....	6.5	1948-
Penataquit Creek at Bayshore, N. Y.....	5	1945-
Sampawams Creek at Babylon, N. Y.....	23	1944-
Carlls River at Babylon, N. Y.....	35	1944-
Santapogue River at Lindenhurst, N. Y.....	7	1947-
Massapequa Creek at Massapequa, N. Y.....	38	1903; 1936-
Wantagh Stream at Wantagh, N. Y.....	17	1883, 1903; 1937-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams on Long Island--Continued</u>		
East Meadow Brook at Freeport, N. Y.....	31	1851-52; 1883; 1885; 1903; 1937-
Pines Brook at Malverne, N. Y.....	10	1851-52; 1856-57; 1885; 1894; 1936-
Watts Creek at Valley Stream, N. Y.....	3.99	1954-
<u>Hudson River basin</u>		
Hudson River near Newcomb, N. Y.....	192	1925-
Opalescent River below Flowed Land near Tahawus, N. Y.....	9.0	1920-22.
Cedar River near Indian Lake, N. Y.....	85	1911-17.
Cedar River below Chain Lakes, near Indian Lake, N. Y.....	160	1930-
Hudson River at Gooley, near Indian Lake, N. Y.....	419	1916-
Indian Lake Reservoir (head of Indian River) near Indian Lake, N. Y.....	131	1900-
Indian River near Indian Lake, N. Y.....	132	1912-14; 1915-
Hudson River at North Creek, N. Y.....	792	1907-
North Creek at North Creek, N. Y.....	21.8	1924-32.
Schroon Lake at Pottersville, N. Y.....	317	1908-11*.
Schroon River at Riverbank, N. Y.....	527	1907-
Schroon River at Warrensburg, N. Y.....	567	1895-1902.
Hudson River at Thurman, N. Y.....	1,533	1907-20.
Hudson River at Hadley, N. Y.....	1,664	1921-
<u>Sacandaga River:</u>		
East Branch Sacandaga River at Griffin, N. Y.....	114	1933-
Sacandaga River at Wells, N. Y.....	260	1907-11.
West Branch Sacandaga River at Whitehouse, N. Y.....	176	1910.
West Branch Sacandaga River at Blackbridge, near Wells, N. Y.....	210	1911-16.
Sacandaga River near Hope, N. Y.....	491	1911-
West Stony Creek near Northville, N. Y.....	88	1933-37.
East Stony Creek near Northville, N. Y.....	89	1933-37.
Sacandaga River at Northville, N. Y.....	712	1907-10.
Kennyetto Creek near Broadalbin, N. Y.....	28.3	1939-46.
Sacandaga Reservoir at Conklingville, N. Y.....	1,044	1930-
Sacandaga River at Conklingville, N. Y.....	1,044	1932-52.
Sacandaga River near (at) Hadley, N. Y.....	1,054	1907-32.
Sacandaga River at Stewarts Bridge near Hadley, N. Y.....	1,055	1952-
Sacandaga River at Union Bag & Paper Co.'s mill at Hadley, N. Y.....	1,058	1909-11.
Hudson River at Corinth, N. Y.....	2,755	1904-12.
Hudson River at Spier Falls, N. Y.....	2,779	1912-23.
Glens Falls feeder at Glens Falls, N. Y.....	-	1927-
Glens Falls feeder at Dunham Basin, N. Y.....	-	1945-
Bond Creek at Dunham Basin, N. Y.....	14.7	1947-
Hudson River at Fort Edward, N. Y.....	2,817	1899-1908.
Batten Kill at Arlington, Vt.....	152	1928-
Batten Kill at Battenville, N. Y.....	394	1908*; 1922-
<u>Kayaderoseras Creek (head of Fish Creek):</u>		
Glowegee Creek at West Milton, N. Y.....	26.0	1948-
Kayaderoseras Creek near West Milton, N. Y.....	a/90	1927-
Fish Creek at Burgoyne, N. Y.....	237	1904-5; 1908.
Hoosic River at Adams, Mass.....	46.3	1931-
North Branch Hoosic River at North Adams, Mass.....	39.0	1931-
Hoosic River near Williamstown, Mass.....	132	1940-
Green River at Williamstown, Mass.....	42.6	1949-
Little Hoosic River at Petersburg, N. Y.....	56.1	1951-
Walloomasac River near North Bennington, Vt.....	111	1931-
Hoosic River near (at) Eagle Bridge, N. Y.....	510	1910-22; 1923-
Hoosic River at Buskirk, N. Y.....	577	1903-8.
Hudson River at Mechanicville, N. Y.....	4,500	1887-
Mohawk River below Delta Dam, near Rome, N. Y.....	150	1927-
Mohawk River at Ridge Mills, near Rome, N. Y.....	153	1898-1900.
Ninemile Creek at Stittville, N. Y.....	a/63	1898-99.
Oriskany Creek at Coleman, N. Y.....	140	1904-6.
Oriskany Creek at Wood-road Bridge, near Oriskany, N. Y.....	145	1901-4.
Oriskany Creek at State dam, near Oriskany, N. Y.....	146	1898-1905.
Saquoit Creek at New York Mills, N. Y.....	46.6	1898-1900.
Nail Creek at Utica, N. Y.....	4.62	1904.
Mohawk River at Utica, N. Y.....	514	1901-3.
Reels Creek near Deerfield, N. Y.....	4.44	1901-4.
Johnston Brook near Deerfield, N. Y.....	.77	1903-5.

* Gage heights or gage heights and discharge measurements only.
a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Hudson River basin--Continued		
Hudson River--Continued		
Mohawk River--Continued		
Starch Factory Creek near New Hartford, N. Y.....	3.39	1903-6.
Graefenberg Creek near New Hartford, N. Y.....	.30	1903-6.
Sylvan Glen Creek near New Hartford, N. Y.....	1.10	1903-6.
West Canada Creek at Wilmurt, N. Y.....	195	1912-13.
West Canada Creek at Twin Rock Bridge, near Trenton Falls, N. Y.....	360	1900-9.
West Canada Creek at Hinckley, N. Y.....	375	1919-
Ninemile feeder near Holland Patent, N. Y.....	-	1919-
West Canada Creek at Poland, N. Y.....	461	1913.
West Canada Creek at Middleville, N. Y.....	512	1898-1901.
West Canada Creek at Kast Bridge, N. Y.....	556	1905*-9; (1910-11)n/; 1912-13; (1914-20) n/; 1920-
Mohawk River at Little Falls, N. Y.....	1,306	1898-1909; 1912.
Mohawk River (at Rocky Rift Dam) near Little Falls, N. Y.....	1,348	1901; 1927-
East Canada Creek at Dolgeville, N. Y.....	261	1898-1909; 1912; 1927-46.
East Canada Creek at East Creek, N. Y.....	291	1945-
Caroga Creek 3 miles above junction with Mohawk River, N. Y.	a/82	1898-99.
Otsuago Creek at Fort Plain, N. Y.....	59.2	1949-
Cayadutta Creek near Johnstown, N. Y.....	38	1898-1900.
Schoharie Creek at Prattsville, N. Y.....	236	1902-13; 1931-
Schoharie Creek at Middleburg, N. Y.....	532	1927-39.
Fox Creek at West Berne, N. Y.....	66	1924-32.
Schoharie Creek at Burtonsville, N. Y.....	883	1939-
Schoharie Creek at Schoharie Falls above Mill Point, N. Y...	911	1900-1.
Schoharie Creek at Mill Point, N. Y.....	914	1900-3.
Schoharie Creek at Fort Hunter, N. Y.....	926	1898-1901.
Schoharie Creek at Erie Canal aqueduct, below Port Hunter, N. Y.....	-	1900.
Mohawk River at Tribes Hill, N. Y.....	3,096	1912.
Mohawk River at Schenectady, N. Y.....	3,306	1899-1901.
Alplaus Kill near Charlton, N. Y.....	23.8	1913-16.
Mohawk River at Rexford Flats, N. Y.....	3,375	1898-1901.
Mohawk River at Vischer Ferry Dam, N. Y.....	3,385	1913-26.
Mohawk River at Dunsbach Ferry, N. Y.....	3,442	1898-1909.
Mohawk River at Crescent Dam, N. Y.....	3,453	1917-25.
Mohawk River at Cohoes, N. Y.....	3,456	1925-
Hudson River at Green Island, N. Y.....	8,090	1946-
Poesten Kill near Troy, N. Y.....	a/89	1923-
Quacken Kill at Quacken Kill, N. Y.....	16.5	1894.
Normans Kill at Frenchs Mill, N. Y.....	111	1891.
Kinderhook Creek at Wilsons dam, near Garfield, N. Y.....	a/68	1893-94.
Kinderhook Creek at East Nassau, N. Y.....	116	1892.
Kinderhook Creek at Rossman, N. Y.....	329	1906-9; 1911-14; 1928-
Catskill Creek at Oak Hill, N. Y.....	a/98	1929-
Catskill Creek at South Cairo, N. Y.....	270	1901-7.
Esopus Creek at Coldbrook, N. Y.....	192	1931-
Esopus Creek at Olivebridge, N. Y.....	237	1903-4.
Esopus Creek near Olivebridge, N. Y.....	239	1906-13.
Esopus Creek at Kingston, N. Y.....	317	1901-9.
Esopus Creek at Mount Marion, N. Y.....	419	1907-13.
Rondout Creek near Lowes Corners, N. Y.....	38.5	1937-
Chestnut Creek above Red Brook, at Grahamsville, N. Y.....	12.2	1937-38.
Chestnut Creek at Grahamsville, N. Y.....	20.9	1938-
Rondout Creek near Lackawack, N. Y.....	100	1931-
Diversion to Delaware and Hudson canal at Creek Locks (Rosendale), N. Y.....	-	1901-3; 1906.
Rondout Creek at Rosendale, N. Y.....	386	1901-3; 1906-13; 1926-
Wallkill River near Unionville, N. Y.....	144	1937-
Rutgers Creek at Gardnerville, N. Y.....	59.7	1943-
Pochuck Creek near Pine Island, N. Y.....	98.0	1937-
Quaker Creek at Florida, N. Y.....	9.74	1937-
Wallkill River at Pellets Island Mountain, N. Y.....	385	1919-
Wallkill River near Phillipsburg, N. Y.....	419	1936-
Shawangunk Kill at Pine Bush, N. Y.....	102	1924-32.

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

n/ In reports of N. Y. State Engineer and Surveyor.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Hudson River basin--Continued</u>		
<u>Hudson River--Continued</u>		
Rondout Creek--Continued		
Wallkill River at Gardiner, N. Y.....	711	1924-
Wallkill River at New Paltz, N. Y.....	739	1901-3.
Wappinger Creek near Wappinger Falls, N. Y.....	182	1903-5; 1928-
Fishkill Creek at Glenham, N. Y.....	185	1901-3.
Fishkill Creek at Beacon, N. Y.....	186	1944-
Foundry Brook near Cold Spring, N. Y.....	1.38	1902-3.
Croton River at Croton Dam, near Croton Lake, N. Y.....	354	1868-1900.
Croton River at New Croton Dam, near Croton, N. Y.....	378	1933-38; 1939-40; 1941-
Bird Brook near Croton, N. Y.....	.36	1933-38; 1939-41.
Croton River at Quaker Bridge near Croton, N. Y.....	379	1933-41.
Saw Mill River at Yonkers, N. Y.....	25.6	1943-
<u>Hackensack River basin</u>		
Hackensack River at Rivervale, N. J.....	58.0	1941-
Pascack Brook at Westwood, N. J.....	29.6	1934-
Hackensack River at Oradell, N. J.....	-	1908-13*.
Hackensack River at New Milford, N. J.....	113	1921-
<u>Passaic River basin</u>		
Passaic River near (at) Millington, N. J.....	55.4	1903-6; 1921-
Passaic River near Chatham, N. J.....	100	1903-11; 1937-
Rockaway River:		
Beaver Brook at outlet of Splitrock Pond, N. J.....	5.50	1925-46.
Rockaway River above reservoir, at Boonton, N. J.....	116	1937-
Rockaway River (at and near Boonton, N. J.) below reservoir, at Boonton, N. J.....	119	1903-4; 1906-
Whippany River at Morristown, N. J.....	29.4	1921-
Passaic River at Two Bridges (Mountain View), N. J.....	-	1901-3*o/.
Pequannock River (head of Pompton River) at Macopin intake dam, N. J.....	63.7	1892-
Greenwood Lake at Awosting (The Glens), N. J.....	27.1	1898-1903*; 1907-*
Wanaque River at Awosting (Greenwood Lake), N. J.....	27.1	1919-
Wanaque River at Monks, N. J.....	40.4	1935-
Ringwood Creek near Wanaque, N. J.....	19.1	1934-
Cupsaw Brook near Wanaque, N. J.....	4.38	1934-
Erskine Brook near Wanaque, N. J.....	1.14	1934-38.
West Brook near Wanaque, N. J.....	11.8	1935-
Blue Mine Brook near Wanaque, N. J.....	1.71	1934-
Wanaque River at Wanaque, N. J.....	90.4	1903-5*; 1912-15; 1919-
Ramapo River near Mahwah, N. J.....	118	1903-6; 1908†††; 1922-
Ramapo River at Pompton Lakes, N. J.....	160	1921-
Pompton River at Pompton Plains, N. J.....	355	1903-4; 1940-
Pompton River at Two Bridges (Mountain View), N. J.....	-	1901-3*o/.
Passaic River at Little Falls, N. J.....	762	1952-
Passaic River at Paterson, N. J.....	785	1897-
Saddle River at Ridgewood, N. J.....	21.4	1954-
Hohokus Brook at Ho-Ho-Kus, N. J.....	16.5	1954-
Saddle River at Lodi, N. J.....	54.6	1923-
Weasel Brook at Clifton, N. J.....	4.45	1937-
Second River at Belleville, N. J.....	11.6	1937-
<u>Elizabeth River basin</u>		
Elizabeth River at Irvington, N. J.....	2.91	1930-38.
Elizabeth River at Elizabeth, N. J.....	18.0	1921-
<u>Rahway River basin</u>		
Rahway River:		
West Branch Rahway River at Millburn, N. J.....	7.1	1939-50.
Rahway River near Springfield, N. J.....	25.5	1938-
Rahway River at Rahway, N. J.....	40.9	1908-15*; 1921-
Robinsons Branch Rahway River at Goodmans, N. J.....	12.7	1921-24.
Robinsons Branch Rahway River at Rahway, N. J.....	21.6	1939-
<u>Raritan River basin</u>		
South Branch Raritan River near High Bridge, N. J.....	65.3	1919-
South Branch Raritan River at Stanton, N. J.....	147	1903-6; 1919-
Neshanic River:		
Walnut Brook near Flemington, N. J.....	2.24	1936-
Neshanic River at Reaville, N. J.....	25.7	1930-
North Branch Raritan River near Far Hills, N. J.....	26.2	1922-

* Gage heights or gage heights and discharge measurements only.

††† Discharge measurements only.

o/ Monthly discharge, 1902.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Raritan River basin--Continued</u>		
<u>South Branch Raritan River--Continued</u>		
North Branch Raritan River near Pluckemin (Far Hills), N. J...	52	1903-6.
Lamington (Black) River near (at) Pottersville, N. J.....	32.8	1921-
North Branch Raritan River near Raritan (at Milltown), N. J...	190	1923-
Raritan River at Manville (Finderne), N. J.....	490	1903-7; 1908-15*; 1921-
<u>Millstone River:</u>		
Stony Brook at Princeton, N. J.....	44.0	1953-
Millstone River near Kingston, N. J.....	171	1933-49.
Millstone River at Blackwells Mills, N. J.....	258	1921-
Millstone River at Millstone, N. J.....	-	1903-4*.
Raritan River at Bound Brook, N. J.....	779	1903-9; 1945-
Green Brook at Plainfield, N. J.....	9.75	1938-
Green Brook at Bound Brook, N. J.....	49	1923-31.
Lawrence Brook at Patricks Corner, N. J.....	29	1922-26.
Lawrence Brook at Farrington Dam, N. J.....	34.4	1927-
South River at Old Bridge, N. J.....	94.8	1939-
Deep Run near Browntown, N. J.....	8.07	1932-40.
Tennent Brook near Browntown, N. J.....	5.25	1932-41.
<u>Matawan Creek basin</u>		
Matawan Creek at Matawan, N. J.....	6.11	1932-55.
<u>Navesink River basin</u>		
Swimming River (head of Navesink River) near Red Bank, N. J.....	48.5	1922-
<u>Manasquan River basin</u>		
Manasquan River at Squankum, N. J.....	43.4	1931-
<u>Toms River basin</u>		
Toms River near Toms River, N. J.....	124	1928-
<u>Cedar Creek basin</u>		
Cedar Creek at Lanoka Harbor, N. J.....	56.0	1932-
<u>Mullica River basin</u>		
<u>Mullica River:</u>		
Batsto River at Batsto, N. J.....	70.5	1927-
<u>Wading River:</u>		
East Branch Wading River at Harrisville, N. J.....	64.0	1931-
<u>Absecon Creek basin</u>		
Absecon Creek at Absecon, N. J.....	16.6	1923-29; 1933-38; 1946-
<u>Great Egg Harbor River basin</u>		
Great Egg Harbor (Great Egg) River at Folsom, N. J.....	56.3	1925-
<u>Maurice River basin</u>		
Maurice River at Norma, N. J.....	113	1932-
Manantico Creek near Millville, N. J.....	22.3	1931-
<u>Cohansey River basin</u>		
<u>Cohansey River:</u>		
West Branch Cohansey River at Seeley, N. J.....	2.53	1951-
Loper Run near Bridgeton, N. J.....	2.34	1937-
<u>Delaware River basin</u>		
<u>East Branch Delaware River (head of Delaware River)</u>		
at Margaretville, N. Y.....	163	1937-
Platte Kill at Dunraven, N. Y.....	34.7	1941-
Mill Brook at Arena, N. Y.....	25.0	1937-
Tremper Kill near Shavertown, N. Y.....	33.0	1937-
<u>Coles Clove Kill:</u>		
Terry Clove Kill near Pepacton, N. Y.....	14.1	1937-
Pall Clove Kill near Pepacton, N. Y.....	10.9	1941-43.
Coles Clove Kill near Pepacton, N. Y.....	28.0	1944-53.
East Branch Delaware River at Downsville, N. Y.....	371	1941-
East Branch Delaware River at Harvard, N. Y.....	443	1934-
Beaver Kill near Turnwood, N. Y.....	40.8	1948-
Beaver Kill at Craigie Clair, N. Y.....	82	1937-
Willowemoc Creek at Debruce, N. Y.....	40.9	1948-52.
Willowemoc Creek near Livingston Manor, N. Y.....	63	1937-
Little Beaver Kill near Livingston Manor, N. Y.....	19.8	1924-
Beaver Kill at Cooks Falls, N. Y.....	241	1913-
East Branch Delaware River at Fishs Eddy, N. Y.....	783	1912-
East Branch Delaware River at Hancock, N. Y.....	838	1902-12.
West Branch Delaware River at Delhi, N. Y.....	142	1937-
Little Delaware River near Delhi, N. Y.....	49.8	1937-
West Branch Delaware River at Walton, N. Y.....	331	1950-
Dryden Creek near Granton, N. Y.....	8.85	1952-
Trout Creek near Rock Royal, N. Y.....	20.4	1952-
Trout Creek at Cannonsville, N. Y.....	49.5	1940-

* Gage heights or gage heights and discharge measurements only.

Gaging station	Drainage area (sq mi)	Period of record
Delaware River basin--Continued		
East Branch Delaware River--Continued		
West Branch Delaware River at Stilesville, N. Y.....	456	1952-
Cold Spring Creek:		
Cold Spring Brook at China, N. Y.....	1.51	1934-
Oquaga Creek at Deposit, N. Y.....	66	1940-
West Branch Delaware River at Hale Eddy, N. Y.....	593	1912-
West Branch Delaware River at Hancock, N. Y.....	648	1902-12.
Callicoon Creek at Callicoon, N. Y.....	111	1940-
Tenmile River at Tusten, N. Y.....	45.0	1946-
Delaware River above Lackawaxen River, near Barryville, N. Y.	2,023	1940-
West Branch Lackawaxen (Lackawaxen) River (head of Lackawaxen River) at Prompton, Pa.....	59.7	1944-
Dyberry Creek at Dyberry, Pa.....	63.2	1943-
Lackawaxen River near Honesdale, Pa.....	164	1948-
Lackawaxen River at West Hawley, Pa.....	206	(1921-24*; 1924-31)p/; 1931-38.
Middle Creek near Hawley, Pa.....	78.4	1944-
Lackawaxen River at Hawley, Pa.....	290	(1908-17; 1917-19*)p/; 1938-
Wallenpaupack Creek at Wilsonville, Pa.....	228	(1909-18p/); 1918-21; (1921-26p/); 1926-
Shohola Creek near Shohola, Pa.....	82.0	(1920-24*; 1924-28)p/.
Mongaup River near Rio, N. Y.....	190	1909-13.
Mongaup River near Mongaup, N. Y.....	202	1939-
Delaware River at Port Jervis, N. Y.....	3,076	1904-
Neversink River at Claryville, N. Y.....	61.1	1949-51.
Neversink River near Claryville, N. Y.....	65.6	1951-
Neversink River at Halls Mills, near Curry, N. Y.....	68	1937-49.
Neversink River at Neversink, N. Y.....	91.9	1941-
Neversink River at Woodbourne, N. Y.....	113	1937-
Neversink River at Oakland Valley, N. Y.....	222	1928-
Neversink River at Godeffroy, N. Y.....	302	1903; 1909-10; 1911-14; 1937-
Neversink River at Port Jervis, N. Y.....	333	1902-3.
Delaware River at Montague (Milford, Pa.), N. J.....	3,480	1936-40*; 1940-
Delaware River at Dingmans Ferry, Pa.....	3,542	1936-40*; (1940-45*q/).
Bush Kill (Bushkill Creek) at (near) Shoemakers, Pa.....	117	(1908-15; 1915-20*)p/; 1920-21; (1921-31p/); 1931-
Flat Brook near Flatbrookville, N. J.....	65.1	1923-
Brodhead Creek:		
Paradise (Analomink) Creek at Henryville, Pa.....	30.2	(1908-11; 1913-15)p/.
McMichaels Creek at (near) Stroudsburg, Pa.....	64.4	(1911-15; 1915-20*)p/; 1920-21; (1921-31p/); 1931-38.
Pocono Creek near Stroudsburg, Pa.....	38.0	(1911-15; 1915-19*)p/.
McMichaels Creek (Seventh Street Bridge) at Stroudsburg, Pa.....	108	(1908-10p/).
Brodhead Creek at Minisink Hills, Pa.....	259	1950-
Delaware River at Portland, Pa.....	4,165	1936-40*; (1940-45*q/).
Paulins Kill at Blairstown, N. J.....	126	1921-
Paulins Kill at Columbia, N. J.....	179	1908-9.
Delaware River at Delaware, N. J.....	4,351	1936-40*; (1940-45*q/).
Pequest River at Huntsville, N. J.....	31.4	1939-
Pequest River at Pequest, N. J.....	108	1921-
Beaver Brook near Belvidere, N. J.....	36.2	1922-
Delaware River at Belvidere (at Phillipsburg), N. J.....	4,535	1922-
Delaware River at Easton, Pa.....	4,717	(1904-36*r/); 1936-40*; (1940-45*q/).
Lehigh River at Stoddartsville, Pa.....	91.7	1943-
Lehigh River at Tannery, Pa.....	322	(1914-19*p/); 1919-21; (1921-26; 1926-27*; 1927-28)p/; 1928-
Mud Run:		
Dilldown Creek near Long Pond, Pa.....	2.39	1948-

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p/ In reports of Pennsylvania Department of Forests and Waters.

q/ In Special Report 12 of New Jersey Department of Conservation and Economic Development,
Division of Water Policy and Supply.

r/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Delaware River basin--Continued		
Delaware River--Continued		
Lehigh River at Lehigh, Pa.....	591	1945-48.
Pohopoco Creek:		
Wild Creek at Hatchery, Pa.....	16.8	1941-
Pohopoco Creek near Parryville, Pa.....	109	1940-
Aquashicola Creek at Palmerton, Pa.....	76.7	1939-
Lehigh River at Walnutport, Pa.....	889	1946-
Little Lehigh Creek near Allentown, Pa.....	80.8	1945-
Jordan Creek at Allentown, Pa.....	75.8	1944-
Monocacy Creek at Bethlehem, Pa.....	44.5	1948-
Lehigh River at Bethlehem, Pa.....	1,279	1902-5; 1909-13; (1913- 18p/); 1918-21; (1921- 28p/); 1928-
Saucon Creek at Lanark, Pa.....	12.0	1948-53.
South Branch Saucon Creek at Friedensville, Pa.....	10.6	1948-53.
Saucon Creek at Friedensville, Pa.....	26.6	1948-53.
Lehigh River at Easton, Pa.....	-	1909.
Musconetcong River at outlet of Lake Hopatcong, N. J.....	25.6	1928-
Musconetcong River near Hackettstown, N. J.....	70.0	1921-
Musconetcong River at Asbury, N. J.....	-	1903***.
Musconetcong River near Bloomsbury, N. J.....	143	1903-7; 1921-
Delaware River at Riegelsville, N. J.....	6,328	1906-
Delaware River at Milford, N. J.....	6,381	1936-40*; (1940-45*q/).
Delaware River at Frenchtown, N. J.....	6,420	1936-40*; (1940-45*q/).
Delaware River at Point Pleasant, Pa.....	6,473	1936-40*; (1940-45*q/).
Tohickon Creek near Pipersville, Pa.....	97.4	1935-
Tohickon Creek at Point Pleasant, Pa.....	107	1883-99; (1900p/); 1901-13.
Delaware & Raritan Canal at Kingston, N. J.....	-	1917-
Delaware River at Lumberville, Pa.....	6,598	1936-40*; (1940-45*q/).
Delaware River at Stockton, N. J.....	6,656	1936-40*; (1940-45*q/).
Delaware River at Lambertville, N. J.....	6,680	1897-1902; 1903-8*; 1936-40*; (1940-45*q/).
Delaware River at Washington Crossing, N. J.....	6,735	1936-40*; (1940-45*q/).
Delaware River at Yardley, Pa.....	6,772	1936-40*; (1940-45*q/).
Delaware River at Trenton, N. J.....	6,780	1904-13*r/; 1913-
Assunpink Creek at Trenton, N. J.....	89.4	1923-
Crosswicks Creek at Extonville, N. J.....	83.6	1940-
Neshaminy Creek at Rushland (below forks), Pa.....	134	1884-1912; 1931-34.
Neshaminy Creek near Langhorne, Pa.....	210	1934-
Rancocas Creek:		
North Branch Rancocas Creek:		
Mount Misery Brook:		
Middle Branch Mount Misery Brook		
in Lebanon State Forest, N. J.....	2.49	1952-
McDonalds Branch Mount Misery Brook		
in Lebanon State Forest, N. J.....	2.31	1953-
North Branch Rancocas Creek at Pemberton, N. J.....	111	1921-
Schuylkill River at Pottsville, Pa.....	53.4	1943-
Schuylkill River at Schuylkill Haven, Pa.....	127	(1914-16; 1916-19*)p/.
Schuylkill River at Landingville, Pa.....	133	1947-53.
Schuylkill River at Auburn, Pa.....	160	1947-51.
Little Schuylkill River at Tamaqua, Pa.....	42.9	(1916-19*p/); 1919-21; (1921-31p/); 1931-
Little Schuylkill River at Dreherstown, Pa.....	122	1947-51.
Schuylkill River at Berne, Pa.....	355	1947-
Tulpehocken Creek near Reading, Pa.....	211	1950-
Schuylkill River at Reading, Pa.....	880	(1914-15; 1915-19*)p/; 1919-21; (1921-30p/).
Schuylkill River at Pottstown, Pa.....	1,147	(1927-31p/); 1931-
Perkiomen Creek near Frederick, Pa.....	152	1884-1912.
Perkiomen Creek at Graterford (Graters Ford), Pa.....	279	(1914-16; 1916-26*; 1926-31)p/; 1931-
Schuylkill River at Norristown, Pa.....	1,760	(1927-31p/); 1931-33.
Wissahickon Creek near Philadelphia, Pa.....	85.0	1897-1902; 1905-6.
Schuylkill River at (near) Philadelphia, Pa.....	1,893	1898-1912; 1931-

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*** Weekly discharge only.

p/ In reports of Pennsylvania Department of Forests and Waters.

q/ In Special Report 12 of New Jersey Department of Conservation and Economic Development, Division of Water Policy and Supply.

r/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Delaware River basin--Continued</u>		
Delaware River--Continued		
Mantua Creek at Pitman, N. J.....	6.75	1940-
Darby Creek at Lansdowne, Pa.....	35.0	(1911-16p/).
Crum Creek at Woodlyn, Pa.....	33.3	1931-37.
Ridley Creek at Moylan, Pa.....	31.9	1931-54.
Chester Creek near Chester, Pa.....	61.1	1931-
Oldsman Creek near Woodstown, N. J.....	19.3	1931-40.
Christina River at Coochs Bridge, Del.....	20.5	1943-
White Clay Creek above Newark, Del.....	66.7	1952-
White Clay Creek near Newark, Del.....	87.8	1931-36; 1943-
Mill Creek at Stanton, Del.....	12.3	1931-33.
Red Clay Creek at Wooddale, Del.....	47.0	1943-
West Branch Brandywine Creek at Coatesville, Pa.....	45.8	1943-51.
Brandywine Creek at Chadds Ford, Pa.....	287	(1911-17p/); (1917- 18*p/); 1918-21; (1921-31p/); 1931-53.
Brandywine Creek at Wilmington, Del.....	314	1948-
Shellpot Creek at Wilmington, Del.....	7.46	1945-
Salem River (Creek) at Woodstown, N. J.....	14.6	1941-
Alloway Creek at Alloway, N. J.....	21.9	1952-
<u>Leipsic River basin</u>		
Leipsic River near Cheswold, Del.....	9.2	1931-33; 1943-
<u>Murderkill River basin</u>		
Murderkill River near Felton, Del.....	14.4	1931-33.
<u>Indian River basin</u>		
Indian River:		
Cow Bridge Branch:		
Stockley Branch at Stockley, Del.....	5.5	1943-
<u>Pocomoke River basin</u>		
Pocomoke River near Willards, Md.....	60.5	1949-
Nassawango Creek near Snow Hill, Md.....	44.9	1949-
<u>Manokin River basin</u>		
Manokin Branch (head of Manokin River) near Princess Anne, Md.....	5.8	1951-
<u>Wicomico River basin</u>		
Wicomico River:		
Beaverdam Creek (East Branch Wicomico River) near Salisbury, Md.....	19.5	1929-
<u>Nanticoke River basin</u>		
Gravelly Fork (head of Nanticoke River) near Bridgeville, Del.....	75.4	1943-
James Branch (head of Laurel River):		
Trap Pond Outlet (head of Hitch Pond) near Laurel, Del...	16.7	1951-
Laurel River:		
Holly Branch near Laurel, Del.....	2.19	1950-
Marshyhope Creek near Adamsville, Del.....	44.8	1943-
Faulkner Branch at Federalburg, Md.....	7.10	1950-
Rewastico Creek near Hebron, Md.....	12.2	1949-
<u>Transquaking River basin</u>		
Transquaking River:		
Chicamacomico River near Salem, Md.....	15.0	1951-
<u>Choptank River basin</u>		
Choptank River:		
Shades Branch near Chapeltown, Del.....	11.6	1951-
Choptank River near Greensboro, Md.....	113	1948-
Tuckahoe Creek near Ruthsburg, Md.....	85.2	1951-
Kings Creek:		
Beaverdam Branch at Matthews, Md.....	5.85	1950-
<u>Wye River basin</u>		
Wye River:		
Wye East River:		
Sallie Harris Creek near Carmichael, Md.....	8.09	1951-
<u>Chester River basin</u>		
Chester River:		
Unicorn Branch near Millington, Md.....	22.3	1948-
Morgan Creek near Kennedyville, Md.....	10.5	1951-
Southeast Creek at Church Hill, Md.....	12.5	1951-
<u>Sassafras River basin</u>		
Sassafras River:		
Jacobs Creek near Sassafras, Md.....	5.39	1951-

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<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Elk River basin</u>		
Big Elk Creek (head of Elk River) at Elk Mills, Md.....	52.6	1932-
Little Elk Creek at Childs, Md.....	26.8	1948-
<u>Northeast River basin</u>		
Northeast Creek (head of Northeast River) at Leslie, Md.....	24.3	1948-
<u>Susquehanna River basin</u>		
<u>Susquehanna River:</u>		
Oaks Creek at Index, N. Y.....	103	1929-32; 1937-
Cherry Valley Creek at Westville, N. Y.....	81.3	1930-31; 1938-41.
Susquehanna River at Colliersville, N. Y.....	351	1907-8; 1924-
Charlotte Creek at Davenport Center, N. Y.....	163	1938-
Charlotte Creek at West Davenport, N. Y.....	167	1955-
Otego Creek near Oneonta, N. Y.....	108	1940-
East Sidney Reservoir (Ouleout Creek) at East Sidney, N. Y.	102	1949-
Ouleout Creek at East Sidney, N. Y.....	102	1940-
Susquehanna River at Unadilla, N. Y.....	984	1938-
Unadilla River near New Berlin, N. Y.....	196	1924-
<u>Great Brook:</u>		
Sage Brook near South New Berlin, N. Y.....	.70	1932-
Butternut Creek at Morris, N. Y.....	59.6	1938-
Unadilla River at Rockdale, N. Y.....	518	1929-33; 1937-
Susquehanna River at Conklin, N. Y.....	2,240	1912-
Susquehanna River at Binghamton, N. Y.....	2,293	1901-12.
<u>Chenango River:</u>		
Eaton Brook, Madison County, N. Y.....	-	1835.
Madison Brook, Madison County, N. Y.....	-	1835.
Chenango River at Sherburne, N. Y.....	264	1938-
Canasawacta Creek near South Plymouth, N. Y.....	58.3	1945-
Chenango River at South Oxford, N. Y.....	510	1903.
Chenango River near Greene, N. Y.....	572	1908.
Chenango River at Greene, N. Y.....	598	1937-
Genegantslet Creek at Smithville Flats, N. Y.....	83.1	1938-
<u>East Branch Tioughnioga River:</u>		
<u>Labrador Creek:</u>		
Shackham Brook near Truxton, N. Y.....	3.12	1932-
Albright (East Homer) Creek at East Homer, N. Y.....	7.08	1938-
Tioughnioga River at Cortland, N. Y.....	296	1938-
Dudley Creek at Lisle, N. Y.....	30.0	1938-40.
Otselic River at Cincinnatus, N. Y.....	148	1938-
Otselic River near Upper Lisle, N. Y.....	216	1937-
Whitney Point Reservoir at Whitney Point, N. Y.....	255	1942-
Tioughnioga River at Itaska, N. Y.....	735	1929-
Tioughnioga River at Chenango Forks, N. Y.....	766	1903.
Chenango River near Chenango Forks, N. Y.....	1,492	1912-
Chenango River at Binghamton, N. Y.....	1,530	1901-11.
Susquehanna River at Vestal, N. Y.....	3,960	1937-
Owego Creek near Owego, N. Y.....	186	1930-
<u>Catatonk Creek:</u>		
<u>South Branch Catatonk Creek:</u>		
Dean Creek at Spencer, N. Y.....	6.03	1954-
Susquehanna River near Waverly, N. Y.....	4,780	1937-
Cayuta Creek near Alpine, N. Y.....	17.4	1929-31.
Cayuta Creek at Waverly, N. Y.....	140	1898-1902.
<u>Tioga River (head of Chemung River):</u>		
Corey Creek near Mainesburg, Pa.....	12.2	1954-
<u>Mill Creek:</u>		
Elk Creek near Mainesburg, Pa.....	10.0	1954-
Mill Creek near Tioga, Pa.....	76.4	1938-40.
Tioga River at Tioga, Pa.....	282	1938-
Crooked Creek at Tioga, Pa.....	122	1953-
<u>Cowanesque River:</u>		
Troups Creek at Knoxville, Pa.....	66.5	1938-41.
Cowanesque River at Nelson, Pa.....	266	1938-41.
Cowanesque River near Lawrenceville, Pa.....	295	1951-
Tioga River at Lindley, N. Y.....	770	1930-
Arkport Reservoir near Arkport, N. Y.....	30.5	1951-
Canistota River at Arkport, N. Y.....	30.5	1937-
Canistota River at Hornell, N. Y.....	95.0	1938-43.
<u>Canacadea Creek:</u>		
Karr Valley Creek at Almond, N. Y.....	27.6	1937-
Almond Reservoir near Almond, N. Y.....	56	1949-
Canacadea Creek near Hornell, N. Y.....	58.7	1940-42; 1944-
Canacadea Creek at Hornell, N. Y.....	59.3	1924-29; 1938-40; 1942-44.
Canistota River below Canacadea Creek at Hornell, N. Y....	159	1942-
Bennett Creek at Canistota, N. Y.....	95.8	1938-47.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Susquehanna River basin--Continued</u>		
<u>Susquehanna River--Continued</u>		
<u>Tioga River--Continued</u>		
Canisteo River at West Cameron, N. Y.....	342	1930-31; 1937-
Tuscarora Creek near South Addison, N. Y.....	114	1937-
Tioga River near Erwins, N. Y.....	1,370	1918-
Cohocton River at Cohocton, N. Y.....	53.3	1950-
Cohocton River at Avoca, N. Y.....	157	1938-45.
Fivemile Creek near Kanona, N. Y.....	68.0	1937-
Cohocton River near Savona, N. Y.....	377	1919.
Mud Creek near (at) Savona, N. Y.....	76.1	1918-19; 1937-
Cohocton River near Campbell, N. Y.....	472	1918-
Chemung River at Corning, N. Y.....	-	(1918-37)p/.
Newtown Creek at Elmira, N. Y.....	79.8	1938-
Chemung River at Chemung, N. Y.....	2,530	1903-
Susquehanna River at Towanda, Pa.....	7,797	(1914-18*p/); 1918-20; (1920-31p/); 1931-
Towanda Creek near Monroeton, Pa.....	215	(1914-16; 1916-20*)p/; 1920-21; (1921-31p/); 1931-
Susquehanna River at Wysox, Pa.....	7,930	1908-9.
Wyalusing Creek at Wyalusing, Pa.....	214	(1908-16p/).
Mehoopany Creek:		
North Fork (Branch) Mehoopany Creek near Lovelton, Pa.....	49.9	1940-
Tunkhannock Creek at Dixon, Pa.....	383	(1914-18*p/); 1918-21; (1921-31p/); 1931-
Lackawanna River at Archbald, Pa.....	108	1940-
Lackawanna River at Scranton, Pa.....	175	(1908-11; 1913p/).
Lackawanna River at Moosic, Pa.....	264	(1913-16; 1916-19*)p/; 1919-21; (1921-28p/).
Lackawanna River at Old Forge, Pa.....	332	1938-
Susquehanna River at Wilkes-Barre, Pa.....	9,960	1899-1913; (1913-18p/); 1918-21; (1921-31p/); 1931-
Toby Creek at Luzerne, Pa.....	32.4	1941-
Solomon Creek at Wilkes-Barre, Pa.....	15.7	1940-
Wapwallopen Creek near Wapwallopen, Pa.....	45.8	1919-21; (1921-31p/); 1931-
Nescopeck Creek near St. John, Pa.....	49.0	(1916-19*p/); 1919-21; (1921-26p/).
Fishing Creek near Bloomsburg, Pa.....	274	1938-
Little Fishing Creek at Evers Grove, Pa.....	49.9	1940-
Fishing Creek at Bloomsburg, Pa.....	355	(1914-19*p/); 1919-21; (1921-28; 1928-32*)p/.
Susquehanna River at Danville, Pa.....	11,220	1899-1913; (1913-18p/); 1918-21; (1921-31p/); 1932-
West Branch Susquehanna River at Bower, Pa.....	315	(1913-18p/); 1918-21; (1921-31p/); 1931-
Clearfield Creek at Dimeling, Pa.....	371	(1913-18p/); 1918-21; (1921-31p/); 1931-
Moshannon Creek at Osceola Mills, Pa.....	68.8	1940-
West Branch Susquehanna River at Karthaus, Pa.....	1,462	(1918-20*p/); 1940-
Bennett Branch Sinnemahoning Creek (head of Sinnemahoning Creek):		
Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.	272	(1913-18*p/); 1918-21; (1921-31p/); 1931-
Sinnemahoning Creek at Sinnemahoning, Pa.....	685	1938-
First Fork Sinnemahoning Creek near Sinnemahoning, Pa....	245	1954-
Kettle Creek at Cross Fork, Pa.....	131	1940-
Kettle Creek near Westport, Pa.....	233	1954-
West Branch Susquehanna River at Renovo, Pa.....	2,975	(1908-15; 1915-19*)p/; 1919-21; (1921-31p/); 1931-
North Bald Eagle Creek (Bald Eagle Creek) at Milesburg, Pa.	119	(1911-18p/); 1918-21; (1921-33p/); 1933-35.
Spring Creek near Axemann, Pa.....	87.2	1940-
Spring Creek near Bellefonte, Pa.....	145	(1911-15; 1915-19*)p/.
North Bald Eagle Creek (Bald Eagle Creek) at Blanchard, Pa.	339	1954-
North Bald Eagle Creek (Bald Eagle Creek) at Beech Creek Station, Pa.....	559	(1910-18p/); 1918-21; (1921-31p/); 1931-

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p/ In reports of Pennsylvania Department of Forests and Waters.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Susquehanna River basin--Continued		
Susquehanna River--Continued		
West Branch Susquehanna River--Continued		
Pine Creek at Cedar Run, Pa.....	604	(1918-19* _p); 1919-21; (1921-31 _p); 1931-
Pine Creek near Waterville, Pa.....	750	(1908-18 _p); 1918-20.
Little Pine Creek:		
Blockhouse Creek near English Center, Pa.....	37.7	1940-
Lycoming Creek near Trout Run, Pa.....	173	(1913-16; 1916-19* _p); 1919-21; (1921-31 _p); 1931-
Lycoming Creek near Williamsport, Pa.....	268	(1908-12 _p).
Graffius Run at Williamsport, Pa.....	3.14	1940-53.
West Branch Susquehanna River at Williamsport, Pa.....	5,682	1895-1913; (1913-18 _p); 1918-21; (1921-31 _p); 1931-
Loyalsock Creek at Loyalsock, Pa.....	443	(1925-31 _p); 1931-
Muncy Creek near Sonestown, Pa.....	23.8	1940-
West Branch Susquehanna River at Allenwood, Pa.....	6,538	1899-1902.
West Branch Susquehanna River at Lewisburg, Pa.....	6,847	(1913-23* _p); 1939-
Susquehanna River at Sunbury, Pa.....	18,300	(1918-37* _p); 1937-
Shamokin Creek at Weigh Scale, Pa.....	54.2	1939-
Penn Creek at Penns Creek, Pa.....	301	(1929-31 _p); 1931-
East Mahantango Creek (Mahantango Creek East) near Dalmatia, Pa.....	162	(1929-31 _p); 1931-
Frankstown Branch Juniata River (head of Juniata River) at Williamsburg, Pa.....	291	(1916-19* _p); 1919-21; (1921-31 _p); 1931-
Little Juniata River at Tipton, Pa.....	93.7	1945-
Little Juniata River near Tyrone, Pa.....	101	1939-45.
South Bald Eagle Creek at Tyrone, Pa.....	44.2	1944-
Little Juniata River at Spruce Creek, Pa.....	220	1938-
Shaver Creek near Petersburg, Pa.....	46.4	(1929-31 _p); 1931-38.
Juniata River at Huntingdon, Pa.....	816	(1895-1914; 1920-23* _p); 1941-
Standing Stone Creek near Huntingdon, Pa.....	128	(1929-31 _p); 1931-
Raystown Branch Juniata River:		
Dunning Creek at Belden, Pa.....	172	1939-
Dunning Creek at Yount, Pa.....	191	(1929-31 _p); 1931-39.
Brush Creek at Gapville, Pa.....	36.8	(1929-31 _p); 1931-
Yellow Creek at Loysburg, Pa.....	69.4	1941.
Raystown Branch Juniata River at Saxton, Pa.....	756	(1911-18 _p); 1918-21; (1921-31 _p); 1931-
Great Trough Creek near Marklesburg, Pa.....	84.6	(1930-31 _p); 1931-
Raystown Branch Juniata River near Huntingdon, Pa.....	957	1946-
Juniata River at Mapleton Depot, Pa.....	2,030	1937-
Aughwick Creek near Orbisonia, Pa.....	174	(1914-16*; 1930-31 _p); 1931-38.
Aughwick Creek near Three Springs, Pa.....	205	1938-
Kishacoquillas Creek at Reedsville, Pa.....	164	1939-
Kishacoquillas Creek at Kulps, Pa.....	190	(1911-16 _p).
Tuscarora Creek near Port Royal, Pa.....	214	(1911-18 _p); 1918-21; (1921-31 _p); 1931-
Cocolamus Creek near Millerstown, Pa.....	57.2	(1930-31 _p); 1931-
Juniata River at Newport, Pa.....	3,354	1899-1913; (1913-18 _p); 1918-21; (1921-23 _p); 1923-26; (1926-31 _p); 1931-
Sherman Creek:		
Bixler Run near Loysville, Pa.....	15.0	1954-
Sherman Creek at Shermandale, Pa.....	200	(1929-31 _p); 1931-
Clark Creek near Carsonville, Pa.....	22.5	1937-
Stony Creek near Dauphin, Pa.....	35.0	1937-45.
Conodoguinet Creek at Brysons Bridge, Pa.....	460	(1911-17; 1917-19* _p).
Conodoguinet Creek near Hogestown, Pa.....	470	(1929-31 _p); 1931-
Susquehanna River at Harrisburg, Pa.....	24,100	1890-
Paxton Creek near Penbrook, Pa.....	11.2	1940-50.
Yellow Breeches Creek at Camp Hill (Olmsteds Mill), Pa.....	216	(1909-18 _p); 1918-19; 1954-
Swatara Creek:		
Upper Little Swatara Creek at and near Pine Grove, Pa....	34.3	1919-21; (1921-31 _p); 1931-32.

* Gage heights or gage heights and discharge measurements only.

_p/ In reports of Pennsylvania Department of Forests and Waters.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Susquehanna River basin--Continued</u>		
<u>Susquehanna River--Continued</u>		
Swatara Creek (Big Swatara Creek) at Jonestown, Pa.....	190	(1910-14; 1914-16*)p/.
Swatara Creek at Harper Tavern (Harpers), Pa.....	333	(1918-19*)p/; 1919-21; (1921-31)p/; 1931-
Manada Creek at Manada Gap, Pa.....	13.5	1937-
West Conewago Creek near Manchester, Pa.....	510	1928-
Codorus Creek at Spring Grove, Pa.....	74.3	(1929-32p/); 1932-
South Branch Codorus Creek near York, Pa.....	117	(1925-27*)p/; 1927-31)p/; 1931-
Codorus Creek near York, Pa.....	222	1940-
Susquehanna River at Marietta, Pa.....	25,990	1931-
Conestoga Creek at Lancaster, Pa.....	322	1928-
Susquehanna River at McCall Ferry, Pa.....	26,800	1902-9.
Muddy Creek at Castle Fin, Pa.....	133	1928-38.
Broad Creek at Mill Green, Md.....	16.4	1904-9.
Octoraro Creek near Rising Sun, Md.....	193	1932-
Basin Run at Liberty Grove, Md.....	5.31	1948-
Octoraro Creek at Rowlandsville, Md.....	210	1896-99.
Deer Creek at Rocks, Md.....	94.4	1926-
Deer Creek near Churchville, Md.....	141	1904-9.
<u>Bush River basin</u>		
<u>Bush River:</u>		
Bynum Run near Bel Air, Md.....	7.7	1950-55..
Bynum Run at Bel Air, Md.....	8.8	1944-51; 1955-
<u>Gunpowder River basin</u>		
<u>Gunpowder Falls (head of Gunpowder River):</u>		
Little Falls at Blue Mount, Md.....	52.9	1944-
Gunpowder Falls at Glencoe, Md.....	160	1904-9.
<u>Western Run:</u>		
<u>Delaware Run:</u>		
Slade Run near Glyndon, Md.....	2.27	1947-
Western Run at Western Run, Md.....	59.8	1944-
Gunpowder Falls near Carney, Md.....	314	1949-
Little Gunpowder Falls at Laurel Brook, Md.....	36.1	1926-
Little Gunpowder Falls near Bel Air, Md.....	a/43	1904-9.
<u>Patapsco River basin</u>		
<u>East Branch of North Branch Patapsco River:</u>		
<u>West Branch of North Branch Patapsco River:</u>		
Cranberry Branch near Westminster, Md.....	3.40	1949-
North Branch Patapsco River at Cedarhurst, Md.....	56.6	1945-
North Branch Patapsco River near Reisterstown, Md.....	91.0	1927-53.
North Branch Patapsco River near Marriottsville, Md.....	165	1929-
South Branch Patapsco River at Henryton, Md.....	64.4	1948-
Piney Run near Sykesville, Md.....	11.4	1931-
Patapsco River at Woodstock, Md.....	260	1896-1909.
Patapsco River at Hollofield, Md.....	285	1944-
<u>Curtis Creek:</u>		
Sawmill Creek (head of Furnace Creek) at Glen Burnie, Md...	5.1	1944-52.
<u>South River basin</u>		
<u>North River (head of South River) near Annapolis, Md.....</u>		
Bacon Ridge Branch at Chesterfield, Md.....	8.5	1931-
	6.92	1942-52.
<u>Patuxent River basin</u>		
Patuxent River near Unity, Md.....	34.8	1944-
Cattail Creek at Roxbury Mills, Md.....	27.7	1944-
Patuxent River near Burtonsville, Md.....	127	1911-12; 1913-45.
Patuxent River near Laurel, Md.....	133	1944-
Patuxent River at Laurel, Md.....	137	1896-98.
Little Patuxent River at Guilford, Md.....	38.0	1932-
Little Patuxent River at Savage, Md.....	98.4	1939-
Dorsey Run near Jessup (at Annapolis Junction), Md.....	11.6	1948-
Western Branch near Largo, Md.....	30.2	1949-
<u>Potomac River basin</u>		
North Branch Potomac River at Kitzmiller, Md.....	225	1949-
North Branch Potomac River at Bloomington, Md.....	287	1924-27; 1929-50.
Savage River near Barton, Md.....	49.1	1948-
Crabtree Creek near Swanton, Md.....	16.7	1948-
Savage River below Savage River Dam, near Bloomington, Md....	106	1948-
Savage River at Bloomington, Md.....	115	1905-6; 1924-27; 1929-50.

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

p/ In reports of Pennsylvania Department of Forests and Waters.

Gaging station	Drainage area (sq mi)	Period of record
Potomac River basin--Continued		
North Branch Potomac River at Luke, Md. (at Piedmont, W. Va.)	404	1899-1906; 1949-
Georges Creek at Franklin (at Westernport), Md.....	72.4	1905-6; 1929-
New Creek near Keyser, W. Va.....	45.7	1930-31; 1947-
North Branch Potomac River at Pinto, Md.....	596	1938-
Wills Creek at Hyndman, Pa.....	100	1948-51.
Wills Creek below Hyndman, Pa.....	146	1951-
Wills Creek near (at) Cumberland, Md.....	247	1905-6; 1929-
Chesapeake & Ohio Canal at Cumberland, Md.1/.....	-	1932-34.
North Branch Potomac River at Cumberland, Md.....	873	1894-97.
North Branch Potomac River near Cumberland, Md.....	875	1929-
Evitts Creek near Centerville (Bedford Valley), Pa.....	30.2	1932-
Evitts Creek near Cumberland, Md.....	89.0	1929-32.
Patterson Creek near Headsville, W. Va.....	219	1938-
Patterson Creek at Alaska, W. Va.....	249	1930-31.
South Branch Potomac River at Franklin, W. Va.....	182	1940-
North Fork South Branch Potomac River at Cabins, W. Va...	314	1940-
South Branch Potomac River near Petersburg, W. Va.....	642	1928-
Mill Creek:		
South Mill Creek:		
Spring Run:		
Big Spring at Masonville, W. Va.....	-	1945-
South Fork South Branch Potomac River at		
Brandywine, W. Va.....	102	1943-
South Fork South Branch Potomac River near		
Moorefield, W. Va.....	283	1928-35; 1938-
South Branch Potomac River near Springfield, W. Va.....	1,471	1894-96; 1899-1906; 1928-
Town Creek near Oldtown, Md.....	148	1928-35.
Sawpit Run near Oldtown, Md.....	5.0	1947-
Potomac River at Paw Paw, W. Va.....	3,109	1938-
Cacapon River at Yellow Spring, W. Va.....	306	1939-51.
Cacapon River at Capon Bridge, W. Va.....	367	1930-32.
Cacapon River near Great Cacapon, W. Va.....	677	1922-
Potomac River at Great Cacapon, W. Va.....	4,027	1895*.
Little Tonoloway (Tonoloway) Creek near Hancock, Md.....	16.9	1947-
Potomac River at Hancock, Md.....	4,073	1932-
Licking Creek near Sylvan, Pa.....	158	1930-42.
Back Creek near Jones Spring (Hedgesville), W. Va.....	243	1928-31; 1938-
Conococheague Creek at Fairview, W. Va.....	494	1928-
Opequon Creek near Berryville, Va.....	a/58	1943-
Abrams Creek at Winchester, Va.....	5.6	1945-49.
Abrams Creek near Winchester, Va.....	16.5	1949-
Opequon Creek near Martinsburg, W. Va.....	272	1905-6*; 1947-
Tuscarora Creek above Martinsburg, W. Va.....	11.3	1948-
Tuscarora Creek at Martinsburg, W. Va.....	-	1905*.
Potomac River at Shepherdstown, W. Va.....	5,936	1928-53; 1953-*††
Antietam Creek:		
West Branch Antietam (West Branch Little Antietam)		
Creek at Mont Alto, Pa.....	3.5	(1909-12p/).
Antietam Creek near Waynesboro, Pa.....	93.5	1948-51.
Antietam Creek near Sharpsburg, Md.....	281	1897-1905; 1928-
Chesapeake & Ohio Canal at Point of Rocks, Md.2/.....	-	1931-36.
North River (head of Shenandoah River) near		
Stokesville, Va.....	23.4	1946-
Dry River at Rawley Springs, Va.....	a/74	1946-48.
Cooks Creek at Mount Crawford, Va.....	a/42	1905-6.
North River near Burkettown, Va.....	375	1926-
Middle River:		
Jennings Branch:		
Whiskey Creek:		
Castle Spring near Churchville, Va.....	-	1949-†††
Bell Creek at St. Pauls Chapel, near Staunton, Va.....	.61	1948-55.
Bell Creek near Staunton, Va.....	3.8	1948-55.
Bell Creek at Franks Mill, near Staunton, Va.....	9.6	1948-
Lewis Creek near Staunton, Va.....	a/18	1905-6.
Middle River near Grottoes, Va.....	360	1925-

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

††† Discharge measurements only.

a/ Approximately.

p/ In reports of Pennsylvania Department of Forests and Waters.

1/ Returns to North Branch Potomac River below station near Cumberland.

2/ Returns to Potomac River below station at Point of Rocks.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Potomac River basin--Continued		
Potomac River--Continued		
North River at Port Republic, Va.....	804	1895-99.
South River near Waynesboro, Va.....	136	1952-
South River at Waynesboro, Va.....	144	1928-52; 1953-*
South River at Basic City, Va.....	152	1905-6.
South River at Harriston, Va.....	222	1925-51.
South River at Port Republic, Va.....	248	1895-99.
South Fork Shenandoah River (continuation of North River) near Lynnwood, Va.....	1,076	1930-
Elk Run at Elkton, Va.....	a/17	1905-6.
South Fork Shenandoah River near Luray, Va.....	1,377	1925-30; 1938-51.
Hawksbill Creek near Luray, Va.....	52	1905-6.
Yagers Spring near Luray, Va.....	-	1949-†††
South Fork Shenandoah River at (near) Front Royal, Va.....	1,638	1899-1906; 1930-
Happy Creek at Front Royal, Va.....	13.8	1948-
North Fork Shenandoah River at Cootes Store, Va.....	215	1925-
Unnamed Creek:		
Plains Mill Spring near New Market, Va.....	-	1949-†††
North Fork Shenandoah River at Mount Jackson, Va.....	509	1943-
Stony Creek at Columbia Furnace, Va.....	a/76	1947-
North Fork Shenandoah River near Strasburg, Va.....	772	1925-
Cedar Creek near Winchester, Va.....	101	1937-
Fawcett Run:		
Marlboro Spring at Marlboro, Va.....	-	1949-†††
Passage Creek at Buckton, Va.....	a/87	1905-6*; 1932-
North Fork Shenandoah River near Riverton, Va.....	1,040	1899-1906.
Shenandoah River at Millville, W. Va.....	5,040	1895-1909; 1928-
Catoctin Creek:		
Little Catoctin Creek at Harmony, Md.....	8.9	1947-
Catoctin Creek near Middletown, Md.....	66.9	1947-
Catoctin Creek near Jefferson, Md.....	111	1928-31.
Potomac River at Point of Rocks, Md.....	9,651	1895-
Monocacy River at Bridgeport, Md.....	173	1942-
Big Pipe Creek (head of Double Pipe Creek) at Bruceville, Md.....	102	1947-
Little Pipe Creek at Avondale, Md.....	7.8	1947-
Owens Creek at Lantz, Md.....	5.70	1931-
Hunting Creek at Jintown, Md.....	18.4	1949-
Fishing Creek near Lewistown, Md.....	7.1	1947-
Monocacy River near (at) Frederick, Md.....	665	1896-1930.
Linganore Creek near Frederick, Md.....	82.3	1931-32; 1934-
Monocacy River at Jug Bridge, near Frederick, Md.....	817	1929-
Bennett Creek at Park Mills, Md.....	62.8	1948-
Goose Creek near Leesburg, Va.....	338	1909-12; 1930-
Great Seneca Creek (head of Seneca Creek) near Gaithersburg, Md.....	41.0	1925-31.
Seneca Creek at Dawsonville, Md.....	101	1930-
Potomac River at Great Falls, Md.....	11,460	1886-91†; (1896-1920u/).
Difficult Run near Great Falls, Va.....	a/58	1934-
Potomac River near Washington, D. C.....	11,560	1930-
Little Falls Branch near Bethesda, Md.....	4.1	1944-
Potomac River at Chain Bridge, near Washington, D. C.....	11,570	1892-93†; 1895*.
Rock Creek at Sherrill Drive, Washington, D. C.....	62.2	1929-
Rock Creek at Zoological Park, D. C.....	-	1897-1900*.
Rock Creek at Q St. (Lyon's Mill), Washington, D. C.....	75.6	1892-94; 1929-33.
Northeast Branch Anacostia River at Riverdale, Md.....	72.8	1938-
Northeast Branch Anacostia River at Hyattsville, Md.....	a/75	1911-12.
Northwest Branch Anacostia River near Colesville, Md.....	21.3	1924-
Northwest Branch Anacostia River near Hyattsville, Md.....	49.4	1938-
Northwest Branch Anacostia River at Bladensburg, Md.....	a/52	1911-12.
Beaverdam Branch Anacostia River at Kenilworth Ave., Washington, D. C.....	a/14	1911-12.
Fourmile Run at Alexandria, Va.....	14.4	1951-
Cameron Run at Alexandria, Va.....	33.7	1955-
Henson Creek (head of Broad Creek) at Oxon Hill, Md.....	16.7	1948-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

††† Discharge measurements only.

a/ Approximately.

u/ In Bulletin 31, 1927, of Virginia Geological Survey and (monthly figures only) Bulletin 14, 1954, of Maryland Department of Geology, Mines, and Water Resources.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Potomac River basin--Continued		
Potomac River--Continued		
Accotink Creek near Annandale, Va.....	23.6	1947-
Long Branch (Little Run) near Annandale, Va.....	3.9	1947-
Accotink Creek near Accotink Station, Va.....	37.0	1949-
Cedar Run (head of Occoquan Creek) near Warrenton, Va.....	13.0	1950-
Cedar Run near Catlett, Va.....	93.5	1950-
Broad Run at Buckland, Va.....	50.3	1950-
Bull Run near Manassas, Va.....	147	1950-
Occoquan Creek near Occoquan, Va.....	546	1913-16; 1920-23; 1937-
Mattawoman Creek near Pomomkey, Md.....	57.7	1949-
South Fork Quantico Creek near Independent Hill, Va.....	7.50	1951-
North Branch Chopawamsic Creek near Independent Hill, Va...	5.79	1951-
Middle Fork Chopawamsic Creek near Garrisonville, Va.....	4.51	1951-
South Branch Chopawamsic Creek near Garrisonville, Va....	2.56	1951-
Aquia Creek:		
Beaverdam Run near Garrisonville, Va.....	12.7	1951-
Wicomico River:		
Chaptico Creek at Chaptico, Md.....	10.7	1947-
St. Marys River at Great Mills, Md.....	24.0	1946-
Rappahannock River basin		
Rappahannock River near Warrenton, Va.....	192	1942-
Hazel River:		
Thornton River:		
Rush River at Washington, Va.....	15.2	1953-
Thornton River near Laurel Mills, Va.....	142	1943-
Hazel River at Rixeyville, Va.....	286	1942-
Rappahannock River at Remington, Va.....	616	1942-
Rappahannock River at Kellys Ford, Va.....	641	1925-52.
Mountain Run near Culpeper, Va.....	14.7	1949-
Rapidan River near Ruckersville, Va.....	111	1942-
Robertson River at Locustdale, Va.....	148	1942.
Robertson River near Locustdale, Va.....	180	1943-
Rapidan River at Rapidan, Va.....	446	1925-31.
Rapidan River near Culpeper, Va.....	465	1930-
Rappahannock River near Fredricksburg, Va.....	1,599	1907-
Cat Point Creek near Montross, Va.....	a/45	1943-
Piscataway Creek near Tappahannock, Va.....	28.1	1951-
Plankatank River basin		
Dragon Run (head of Plankatank River) near Church View, Va...	a/86	1943-
Ware River basin		
Beaverdam Swamp (head of Ware River) near Ark, Va.....	7.1	1949-
York River basin		
York River		
North Anna River (head of York River) near Hewlett, Va.....	424	1926-28.
North Anna River near Doswell, Va.....	439	1929-
South Anna River:		
Hudson Creek near Boswells Tavern, Va.....	4.1	1948-
South Anna River at Vontay, Va.....	332	1926-30.
South Anna River near Ashland, Va.....	393	1930-
Pamunkey River (continuation of North Anna River)		
near Hanover, Va.....	1,072	1941-
Totopotomoy near Atlee, Va.....	6.0	1948-
Mattaponi River near Bowling Green, Va.....	251	1942-
Mattaponi River near Beulahville, Va.....	619	1941-

a/ Approximately.

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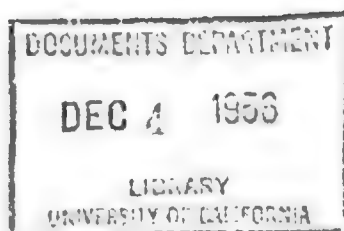
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Westport River, West Branch, R. I.....	5	Yagers Spring, Va.....	22
West Stony Creek, N. Y.....	10	Yantic River, Conn.....	6
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1. GEOLOGICAL SURVEY CIRCULAR 382



**INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955**

**PART 2.—SOUTH ATLANTIC SLOPE AND
EASTERN GULF OF MEXICO BASINS**



UNITED STATES DEPARTMENT OF THE INTERIOR

Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 382

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 2.—SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

By P. R. Speer and A. B. Goodwin

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

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INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 2.—SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

By P. R. Speer and A. B. Goodwin

EXPLANATION

This index lists the streamflow and reservoir stations in the South Atlantic slope and Eastern Gulf of Mexico basins for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indention and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indention in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 20 to 24.

INDEX, PART 2, SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS
PART 2-A, JAMES RIVER TO SAVANNAH RIVER

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
James River basin		
Jackson River (head of James River):		
Bolar Run:		
Bolar Spring at Bolar, Va.....	-	1949- ***
Muddy Run:		
Muddy Run Spring near Warm Springs, Va.....	-	1946- ***
Warm Springs Run:		
Warm Spring at Warm Springs, Va.....	-	1928-44; 1944-50*.
Back Creek near Mountain Grove, Va.....	131	1951-
Falling Springs Creek near Falling Spring, Va.....	-	1947-52.
Jackson River at Falling Spring, Va.....	409	1925-
Dunlap Creek near Covington, Va.....	166	1928-
Jackson River at Covington, Va.....	440	1907-8.
Potts Creek near Covington, Va.....	158	1928-
Smith Creek above old dam, near Clifton Forge, Va.....	12.4	1947-
Smith Creek near Clifton Forge, Va.....	12.5	1944-47.
Cowpasture River near Clifton Forge, Va.....	456	1925-
Stuart Spring near McDowell, Va.....	-	1949- ***
James River at Lick Run, Va.....	1,369	1925-
Craig Creek:		
Meadow Creek at Newcastle, Va.....	13.8	1929-52.
Johns Creek at Newcastle, Va.....	106	1926-
Craig Creek at Parr, Va.....	331	1925-
Catawba Creek near Catawba, Va.....	a/34	1943-
Catawba Creek near Pincastle, Va.....	104	1928-37.
James River at Buchanan, Va.....	2,084	1898-
Purgatory Creek:		
Karnes Spring near Buchanan, Va.....	-	1949- ***
Calfpasture River (head of Maury River) above Mill Creek, at Goshen, Va.....	147	1939-
Calfpasture (North) River at Goshen, Va.....	190	1925-38.
Maury (North) River at Rockbridge Baths, Va.....	329	1928-
Kerrs Creek:		
Big Spring at Kerrs Creek, Va.....	-	1949- ***
Kerrs Creek near Lexington, Va.....	a/34	1927
Maury (North) River near Lexington, Va.....	487	1925-
South River near Riverside, Va.....	111	1949-
Maury (North) River near Buena Vista, Va.....	649	1939-
Maury (North) River near Glasgow, Va.....	831	1895-1905.
Pedlar River near Pedlar Mills, Va.....	a/91	1942-
James River at Holcombs Rock (at Salt Creek), Va.....	3,250	1900-1915*; 1926-
James River at Bent Creek, Va.....	3,671	1925-
Buffalo River:		
Tye River at Roseland, Va.....	a/68	1927-38.
Tye River near Lovingsston, Va.....	a/92	1938-
Piney River at Piney River, Va.....	a/48	1949-
Buffalo River near Norwood, Va.....	360	1940-
Rockfish River near Greenfield, Va.....	a/96	1943-
James River at Scottsville, Va.....	4,571	1925-
Hardware River near Scottsville, Va.....	104	1925-38.
Hardware River below Briery Run, near Scottsville, Va.....	116	1938-
Slate River near Arvonis, Va.....	235	1926-
Mechum River (head of Rivanna River) near Ivy, Va.....	a/97	1942-51.
North Fork Moormans River near Whitehall, Va.....	11.4	1951-
Moormans River near Whitehall, Va.....	a/18	1943-46.
South Fork Rivanna River near Earlysville, Va.....	216	1951-
Rivanna River near Charlottesville, Va.....	473	1925.
Rivanna River below Moores Creek, near Charlottesville, Va..	507	1925-34.
Rivanna River at Palmyra, Va.....	675	1934-
Willis River at Flanagan Mills, Va.....	247	1926-
James River at Cartersville, Va.....	6,242	1899-
Lickinghole Creek near Goochland, Va.....	a/70	1944-46.
Beaverdam Creek at State Farm, Va.....	a/42	1944-47..
Pine Creek at Pine Creek Mills, Va.....	a/25	1944-
James River & Kanawha Canal near Richmond, Va.....	-	1936-
James River near Richmond, Va.....	6,757	1934-
Falling Creek near Chesterfield, Va.....	32.8	1955-
Falling Creek near Drewrys Bluff, Va.....	a/54	1942-
Appomattox River:		
Buffalo Creek near Hampton Sydney, Va.....	a/70	1946-
Appomattox River at Farmville, Va.....	306	1926-
Appomattox River at Mattoax, Va.....	729	1900-1905; 1926-
Flat Creek near Amelia, Va.....	a/73	1946-47.
Deep Creek near Mannboro, Va.....	156	1946-

* Gage heights or gage heights and discharge measurements only.

*** Discharge measurements only.

a/ Approximately.

a/ Approximately.

PART 2-A, JAMES RIVER TO SAVANNAH RIVER

3

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
James River basin--continued		
Appomattox River near Petersburg, Va.....	1,335	1927-
Swift Creek near Chester, Va.....	143	1943-49.
Chickahominy River near Providence Forge, Va.....	249	1942-
Dismal Swamp basin		
Lake Drummond in Dismal Swamp, Va.....	-	1926- *
Cypress Swamp at Cypress Chapel, Va.....	a/23	1953-
Chowan River basin		
Nottoway River (head of Chowan River) near Burkeville, Va.	a/38	1946-
Nottoway River near Rawlings, Va.....	323	1950-
Nottoway River near McKenney, Va.....	362	1946-50.
Nottoway River near Stony Creek, Va.....	586	1930-
Stony Creek near Dinwiddie, Va.....	111	1946-
Hunting Quarter Creek:		
Anderson Branch at Sussex, Va.....	a/5.4	1948-
Nottoway River near Sebrell, Va.....	1,451	1941-
Blackwater River near Dendron, Va.....	285	1942-
Blackwater River at Zuni, Va.....	448	1943-
Seacock Creek at Unity, Va.....	102	1943-49.
Blackwater River near Burdette, Va.....	576	1941-44.
Blackwater River near Franklin, Va.....	613	1944-
Blackwater River at Franklin, Va.....	-	1944- *††
Chowan River:		
North Meherrin River near Keysville, Va.....	a/9.2	1948-
North Meherrin River near Lunenburg, Va.....	a/60	1946-
Meherrin River near Lawrenceville, Va.....	553	1928-
Meherrin River at Emporia, Va.....	749	1951-
Pontaine Creek near Brink, Va.....	68.6	1953-
Pontaine Creek near Emporia, Va.....	a/96	1944-53.
Wicaccan Creek:		
Ahoskie Creek at Ahoskie, N.C.....	64.3	1950-
Roanoke River basin		
South Fork Roanoke River:		
Big Springs at Elliston, Va.....	-	1949- ***
Roanoke River at Lafayette, Va.....	257	1943-
Roanoke River at Roanoke, Va.....	388	1896-
Tinker Creek at Roanoke, Va.....	a/70	1907-8.
Roanoke River at Niagara, Va.....	511	1926-
Back Creek near Roanoke, Va.....	a/43	1907-8.
Blackwater River near Union Hall, Va.....	208	1925-
Roanoke River near Toshes, Va.....	1,020	1925-
Pigg River:		
Snow Creek at Sago, Va.....	a/60	1934-43.
Pigg River near Toshes, Va.....	394	1930-
Roanoke River near Gretna, Va.....	a/1,430	1925-30.
Goose Creek near Huddleston, Va.....	187	1925-27*;(1928*)b/;1930-
Goose Creek at Huddleston, Va.....	218	1929-31*b/
Roanoke River at Altavista, Va.....	1,802	1930-
Otter River near Bedford, Va.....	116	1943-
Otter River near Evington, Va.....	325	1936-
Otter River near Altavista, Va.....	372	1929-36.
Roanoke River at Brookneal, Va.....	a/2,420	1923-
Falling River:		
East Fork Falling River near Appomattox, Va.....	a/5.1	1954-
East Fork Falling River at Spring Mills, Va.....	52.2	1954-
Falling River near Naruna, Va.....	172	1929-35; 1941-
Little Falling River at Hat Creek, Va.....	a/43	1929-35.
Falling River near Brookneal, Va.....	228	1935-41.
Cub Creek at Phenix, Va.....	102	1946-
Roanoke River at Randolph, Va.....	a/3,000	1900-1906;1927-30;1950-
Roanoke Creek at Saxe, Va.....	162	1946-
Roanoke River near Clover, Va.....	a/3,230	1929-52.
Roanoke River above Dan River, at Clarkeville, Va.....	-	1893-98 *
Dan River near Asbury, N. C.....	71.4	1924-26.
Dan River near Francisco, N. C.....	124	1924-
Dan River at Pine Hall, N. C.....	496	1923-26.
Dan River at Madison, N. C.....	850	1903-8.
Mayo River:		
North Mayo River near Spencer, Va.....	108	1928-
Mayo River near Price, N. C.....	260	1929-
Dan River near Wentworth, N. C.....	a/1,050	1939-

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

*** Discharge measurements only.

a/ Approximately.

b/ In Virginia Division of Water Resources and Power, Bull. 6.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Roanoke River basin--continued</u>		
Dan River at Leaksville, N. C.....	a/1,150	1929-49.
Smith River near Philpott, Va.....	212	1946-
Smith River at Bassett, Va.....	253	1939-
Smith River at Martinsville, Va.....	374	1929-
Leatherwood Creek near Old Liberty, Va.....	a/68	1925-34.
Smith River at Spray, N. C.....	538	1939-
Sandy River near Danville, Va.....	a/113	1929-
Dan River at Danville, Va.....	a/2,050	1934-
Dan River at Paces, Va.....	a/2,550	1950-
Dan River at South Boston, Va.....	a/2,730	1900-1907; 1923-52; 1952- *
Banister River:		
Georges Creek near Gretna, Va.....	a/9.2	1949-
Banister River at Halifax (near Houston), Va.....	552	1904-5†; 1926-
Hyco River near Denniston, Va.....	289	1929-34; 1950-
Hyco River near Omega, Va.....	413	1934-50.
Dan River at Clarksville, Va.....	-	1895-98*.
Roanoke River at Clarksville, Va.....	a/7,320	1934-52.
Roanoke River at Buggs Island, Va.....	a/7,780	1921-23*; 1947-
Roanoke River at Old Gaston, N. C.....	a/8,350	1911-32
Roanoke River at Roanoke Rapids, N. C.....	a/8,410	1930-
Roanoke River near Scotland Neck (at Neal), N. C.....	a/8,700	1896-1903; 1940-
<u>Pamlico River basin</u>		
Tar River (head of Pamlico River) near Tar River, N.C....	161	1939-
Tar River near Nashville, N. C.....	701	1928-
Sapony Creek near Nashville, N. C.....	64.8	1950-
Fishing Creek near Enfield, N. C.....	521	(1910-22*)c/; (1918-23)d/; 1923-
Tar River at Tarboro, N. C.....	a/2,140	1896-1900; (1905-30*)c/; 1931-
Tar River at Greenville, N. C.....	a/2,620	1935, 1940. (1905-*)c/
Pamlico River:		
Runyon Creek:		
Herring Run near Washington, N. C.....	a/15	1950-
<u>Neuse River basin</u>		
Eno River (head of Neuse River) at Hillsboro, N. C.....	66.5	1927-
Flat River at Bahama, N. C.....	150	1925-
Dial Creek near (at) Bahama, N. C.....	a/4.9	1925-
Flat River at dam, near Bahama, N. C.....	171	1927-
Neuse River near Northside, N. C.....	526	1927-
Neuse River near Clayton, N. C.....	a/1,140	1927-
Swift Creek:		
Middle Creek near Clayton, N. C.....	80.7	1939-
Little River near Princeton, N. C.....	229	1930-
Neuse River near Goldsboro, N. C.....	a/2,390	1930-
Neuse River at Kinston, N. C.....	a/2,690	1930-
Moccasin Creek (head of Contentnea Creek):		
Little Creek near Zebulon, N. C.....	a/5.2	1924-26.
Contentnea Creek near Wilson, N. C.....	236	1930-54.
Nahunta Swamp near Shine, N. C.....	77.6	1954-
Contentnea Creek at Hookerton, N. C.....	729	1928-
Swift Creek near Vanceboro, N. C.....	182	1950-
Trent River near Trenton, N. C.....	168	1951-
<u>New River basin</u>		
New River near Gum Branch, N. C.....	74.5	1949-
<u>Cape Fear River basin</u>		
Haw River (head of Cape Fear River) near BenaJa, N. C....	163	1928-
Reedy Fork:		
Horsepen Creek near Battle Ground, N. C.....	15.9	1925-31; 1934-
Reedy Fork near Gibsonville, N. C.....	133	1928-
South Buffalo (Buffalo) Creek near Greensboro, N. C.....	33.6	1928-
North Buffalo Creek near Greensboro, N. C.....	37.0	1928-
Stony Creek near Burlington, N. C.....	44.2	1952-
Haw River at Haw River, N. C.....	599	1928-
Haw River near Pittsboro, N. C.....	a/1,310	1928-
New Hope River:		
Morgan Creek near Chapel Hill, N. C.....	29.1	1923-32.
New Hope River near Pittsboro, N. C.....	285	1949-
West Fork Deep River near High Point, N. C.....	32.1	1923-26; 1928-
East Fork Deep River near High Point, N. C.....	14.7	1928-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

c/ In reports of U. S. Weather Bureau.

d/ Revised figures in North Carolina Department of Conservation and Development, Bull. 39.

PART 2-A, JAMES RIVER TO SAVANNAH RIVER

5

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Cape Fear River basin--continued		
Haw River--continued		
Deep River near Randleman, N. C.....	124	1928-
Muddy Creek near Archdale, N. C.....	16.2	1934-42.
Deep River at Ramseur, N. C.....	346	1922-
Bear Creek at Robbins, N. C.....	134	1939-
Deep River at Cumhock, N. C.....	a/1,110	1900-1902.
Deep River at Moncure, N. C.....	a/1,410	1930-
Cape Fear River at Lillington, N. C.....	a/3,440	1923-
Little (Lower Little) River at Manchester, N. C.....	348	1938-50.
Little (Lower Little) River at Linden, N. C.....	460	1928-
Cape Fear River at Fayetteville, N. C.....	a/4,370	1889-1903e/; (1904-17)d/; 1928-40; (1904-27; 1941-*)g/
Rockfish Creek near Hope Mills, N. C.....	284	1939-54.
Rockfish Creek near Fayetteville (Brunt), N. C.....	292	1902-3*; 1928-31.
Cape Fear River at lock 3, near Tarheel, N. C.....	a/4,810	1937-
Black River:		
Coharie Creek:		
Little Coharie Creek near Roseboro, N. C.....	96.4	1950-
Black River near Tomahawk, N. C.....	680	1951-
South River near Parkersburg, N. C.....	382	1951-
Colly Creek near Kelly, N. C.....	85.2	1950-
Northeast Cape Fear River near Chinquapin, N. C.....	600	1940-
Rock Fish Creek near Wallace, N. C.....	65.2	1955-
Waccamaw River basin		
Waccamaw River:		
White Marsh:		
Middle Swamp near Elkton, N. C.....	a/3.7	1940-42.
Waccamaw River at Freeland, N. C.....	626	1939-
Seven Swamp:		
Beaverdam Swamp at Lebanon, N. C.....	21.3	1940-42.
Waccamaw River near Longs, S. C.....	a/1,050	1950-
Pee Dee River basin		
Yadkin River (head of Pee Dee River) at Patterson, N. C.	28.6	1939-
Reddies River at North Wilkesboro, N. C.....	93.9	1939-
Yadkin River at Wilkesboro (North Wilkesboro), N. C.....	493	1903-9; (1903-7)g/; 1920-
Fisher River near Dobson, N. C.....	109	1920-32.
Fisher River near Copeland, N. C.....	121	1931-
Yadkin River at Siloam, N. C.....	1,219	1900-1901.
Ararat River near Pilot Mountain, N. C.....	287	1920-22.
Little Yadkin River near Donnaha, N. C.....	59.7	1940.
Yadkin River at Donnaha, N. C.....	a/1,600	1913-18; (1916-18)*; 1920-23.
Forbush Creek near Yadkinville, N. C.....	21.7	1940-
Reedy Creek near Yadkin College, N. C.....	13.3	1940-42.
Yadkin River at Yadkin College, N. C.....	a/2,280	1928-
Dutchmans Creek near Cornatzer, N. C.....	83.6	1940-42.
South Yadkin River:		
Rocky River at Turnersburg, N. C.....	85.5	1940-
South Yadkin River near Mocksville, N. C.....	313	1938-
Hunting Creek near Harmony, N. C.....	153	1951-
South Yadkin River at Cooleemee, N. C.....	569	1928-
Third Creek:		
Third Creek subwatershed No. 21 (IL Creek) at		
Troutmans, N. C.....	1.62	1955-
Third Creek near Statesville, N. C.....	68.9	(1913-21)g/
Third Creek at Cleveland, N. C.....	87.4	1940-
Yadkin River near Salisbury, N. C.....	a/3,400	1895-1909; 1911-27.
Abbotts Creek at Lexington, N. C.....	174	1940-
Fourmile Branch near Southmont, N. C.....	19.4	1940-42.
Yadkin River at High Rock, N. C.....	a/3,980	1919-27; 1941-
Uwharrie River near Trinity, N. C.....	11.3	1934-42.
Uwharrie River near Eldorado, N. C.....	347	1938-
Pee Dee River (Yadkin River at) near Norwood, N. C.....	4,614	1896-99.
Rocky River:		
Dutch Buffalo Creek near Mount Pleasant, N. C.....	64.1	1940-42.
Long Creek:		
Big Bear Creek near Richfield, N. C.....	56.3	1954-
Richardson Creek near Marshville, N. C.....	170	1940-44.
Rocky River near Norwood, N. C.....	a/1,370	1929-
Brown Creek:		
Little Brown Creek near Polkton, N. C.....	13.5	1935-41.
Brown Creek near Polkton, N. C.....	110	1937-

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

c/ In reports of U. S. Weather Bureau.

d/ In North Carolina Department of Conservation and Development, Bull. 34.

e/ Revised figures in North Carolina Department of Conservation and Development, Bull. 34.

f/ In North Carolina Department of Conservation and Development, Bull. 34.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pee Dee River basin--continued		
Pee Dee River near Ansonville, N. C.....	a/6,330	1938-43.
Little River near Star, N. C.....	97.6	1954-
Mountain Creek near Ellerbe, N. C.....	33.4	1940-42.
Pee Dee (Yadkin) River near Rockingham (Pee Dee), N. C.....	a/6,870	(1906-12) _a ; 1927-
Jones Creek:		
North Fork Jones Creek near Wadesboro, N. C.....	10.0	1935-41.
Pee Dee River at Cheraw, S. C.....	a/7,320	1909-12; 1929- ††
Thompson Creek:		
Juniper Creek near Cheraw, S. C.....	a/64	1940-
Pee Dee River at Peedee (near Mars Bluff), S. C.....	a/8,830	1939-
Lynches River near Bishopville, S. C.....	675	1942-
Lynches River at Effingham, S. C.....	a/1,030	1929-
Little Pee Dee River near Dillon, S. C.....	524	1939-
Drowning Creek (head of Lumber River):		
Deep Creek near Roseland, N. C.....	18.9	1940-42.
Drowning Creek near Hoffman, N. C.....	178	1939-
Raft Swamp:		
Little Raft Swamp at Red Springs, N. C.....	23.1	1940-42.
Lumber River at Boardman, N. C.....	a/1,220	1929-
Little Pee Dee River at Galivants Ferry, S. C.....	a/2,790	1942-
Black River near Gable, S. C.....	401	1951-
Black River at Kingstree, S. C.....	a/1,260	1929-
Santee River basin		
Catawba River (head of Santee River) at Old Fort, N. C.....	14.7	1907 f/.
Mill Creek at Old Fort, N. C.....	20.7	1907; 1930-31.
Catawba River near Old Fort, N. C.....	57.1	1930-31.
Catawba River near Marion, N. C.....	171	1941-
Linville River at Branch (Fonta Flora), N. C.....	a/65	1907-8 _a ; 1922-
Linville River near Bridgewater, N. C.....	a/86	1900.
Catawba River near Morganton, N. C.....	758	1900; 1903-9.
Johns River at Collettsville, N. C.....	a/69	1907 _f
Wilson Creek near Adako, N. C.....	a/66	1921-22.
Johns River near Morganton, N. C.....	213	1900-1901.
Catawba River at Rhodhiss, N. C.....	1,088	1917-20.
Lower Little River near All Healing Springs, N. C.....	31.2	1953-
Catawba River at Catawba, N. C.....	1,535	1896-1902; (1900; 1902)*; 1934-
Henry Fork (head of South Fork Catawba River) near		
Henry River, N. C.....	a/80	1925-31; 1941-
Indian Creek near Laboratory, N. C.....	68.4	1951-
South Fork Catawba River:		
Long Creek near Bessemer City, N. C.....	31.4	1952-
Long Creek near Gastonia, N. C.....	41.9	1923-25.
South Fork Catawba River at Lowell, N. C.....	630	1942-
Catawba Creek at Gastonia, N. C.....	a/2.4	1928-29.
Catawba River near Rock Hill, S. C.....	a/3,050	1895-1903; 1942-
Sugar Creek:		
Little Sugar Creek near Charlotte, N. C.....	41.4	1924-
Catawba River near Catawba, S. C.....	a/3,500	1903-4; 1905*.
Rocky Creek at Great Falls, S. C.....	194	1951-
Wateree River (continuation of Catawba River) near		
Camden, S. C.....	a/5,070	1903*; 1904-10; 1929-
Broad River (head of Congaree River) near Chimney Rock		
(Uree), N. C.....	a/97	1907-9 _a ; 1927-
Cove Creek near Lake Lure, N. C.....	77.0	1951-
Green River at Saluda, N. C.....	a/51	1907-9.
Green River near Mill Spring, N. C.....	174	1939-54.
Second Broad River near Logans Store, N. C.....	a/98	1907-8.
Second Broad River at Cliffside, N. C.....	211	1925-
Broad River near Boiling Springs, N. C.....	864	1925-
Sandy Run Creek near Boiling Springs, N. C.....	a/67	1925-28.
First Broad River near Lawndale, N. C.....	198	1940-
Broad River at Dellinger, S. C.....	-	1900-1901*.
Broad River near Gaffney, S. C.....	a/1,490	1896-99; 1938-
North Pacolet River near Tryon, N. C.....	49.0	1924-25.
North Pacolet River at Fingerville, S. C.....	116	1929-
South Pacolet River Reservoir near Fingerville, S. C.	a/92	1930-
Pacolet River near Fingerville, S. C.....	212	1929-
Pacolet River near Clifton, S. C.....	320	1939-

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

a/ Approximately.

c/ Revised figures in North Carolina Department of Conservation and Development, Bull. 34.

f/ In North Carolina Department of Conservation and Development, Bull. 34.

PART 2-A, JAMES RIVER TO SAVANNAH RIVER

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<u>Gaging station</u>	<u>Drainage area (sq mi.)</u>	<u>Period of record</u>
Santee River basin--continued		
Wateree River--continued		
Broad River near Carlisle, S. C.....	a/2,790	1938-
North Tyger River near Fairmont, S. C.....	a/44	1950-
Middle Tyger River at Lyman, S. C.....	68.3	1938-
North Tyger (Tiger) River near Moore, S. C.....	162	1934-
South Tyger (Tiger) River near Reidville, S. C.....	106	1934-
South Tyger (Tiger) River near Woodruff, S. C.....	174	1934-
Tyger (Tiger) River near Woodruff, S. C.....	351	1929-
Fairforest Creek near Union, S. C.....	183	1940-
Enoree River near Enoree, S. C.....	307	1929-
Broad River at Alston, S. C.....	a/4,790	1896*; 1897-1907.
Broad River at Richtex, S. C.....	a/4,850	1925-
Little River at Richtex, S. C.....	237	1926; 1927-28*.
Saluda River near Greenville (West Greenville), S. C.....	293	1942-
Saluda River near Pelzer, S. C.....	405	1929-
Saluda River near Ware Shoals, S. C.....	569	1939-
Reedy River near Greenville, S. C.....	48.6	1941-
Reedy River near Princeton, S. C.....	207	1929-31.
Reedy River near Ware Shoals, S. C.....	228	1939-
Saluda River near Waterloo, S. C.....	1,056	1896*; 1897-1905.
Saluda River near Ninety Six, S. C.....	-	1905*.
Lake Greenwood near Chappells, S. C.....	a/1,150	1940-
Saluda River at Chappells, S. C.....	a/1,350	1927-
Saluda River near Silverstreet, S. C.....	a/1,620	1927-
Saluda River near Chapin, S. C.....	a/2,380	1927-29.
Lake Murray near Columbia, S. C.....	a/2,420	1929-
Saluda River near Columbia, S. C.....	a/2,510	1925-
Congaree River (continuation of Broad River) at Columbia, S.C.	a/7,850	1939- ††
Santee River at Ferguson, S. C.....	14,600	1907-41.
Lakes Marion-Moultrie diversion canal near Pineville, S. C...	-	1944-
Lake Marion (Santee Reservoir) near Pineville, S. C.....	a/14,700	1942-
Santee River near Pineville, S. C.....	a/14,700	1942-
Cooper River basin		
Cooper River:		
West Branch Cooper River:		
Lake Moultrie (Pinopolis Reservoir) near Pinopolis, S. C...	-	1942-
Edisto River basin		
South Fork Edisto River near Montmorenci, S. C.....	198	1940-
South Fork Edisto River near Denmark, S. C.....	a/720	1931-
North Fork Edisto River at Orangeburg, S. C.....	683	1938-
Edisto River near Branchville, S. C.....	a/1,720	1945-
Four Hole Swamp (Creek) near Ridgeville, S. C.....	a/600	1914-17.
Edisto River near Givhans, S. C.....	a/2,730	1939-
Combahee River basin		
Salkehatchie River (head of Combahee River) near Miley, S. C...	341	1951-
Combahee River near Yemassee, S. C.....	a/1,100	1951-
Broad River basin		
Coosawhatchie River (head of Broad River) near Hampton, S. C...	203	1951-
Savannah River basin		
Chattooga River (head of Savannah River) near Clayton, Ga.....	207	1907-8; 1939-
Stekoa Creek near Clayton, Ga.....	a/37	1907-8.
Chattooga River near Tallulah Falls, Ga.....	250	1917-27.
Tallulah River:		
Burton Reservoir near Clayton, Ga.....	-	(1929- †) ††
Tallulah River near Seed, Ga.....	127	1916-20.
Mathis Reservoir near Lakemont, Ga.....	-	(1929- †) ††
Tallulah River near Lakemont, Ga.....	151	1916-18.
Tiger Creek at Lakemont, Ga.....	a/29	1916-18.
Tallulah River at Mathis, Ga.....	186	1912-16.
Tallulah River at Tallulah Falls, Ga.....	191	1900-1901; 1904-12.
Panther Creek near Toccoa, Ga.....	31.4	1943-
Tugaloo River near Toccoa, Ga.....	528	1907-8.
Tugaloo River near Madison, S. C.....	593	1898-1901; 1903-10.
Chauga River near Madison, S. C.....	-	1907*.
Tugaloo River near Hartwell, Ga.....	909	1925-27; 1940-
Toxaway River (head of Seneca River):		
Whitewater River at Jocassee, S. C.....	47.3	1951- ††
Keowee River (continuation of Toxaway River) near Jocassee, S. C.....	148	1949- ††

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

/ Approximately.

INDEX, PART 2, SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Savannah River basin--continued		
Tugaloo River--continued		
Keowee River near Newry, S. C.....	455	1939-
Twelvemile Creek near Liberty, S. C.....	106	1954- ††
Seneca River near Clemson College, S. C.....	646	1903-5.
Seneca River near Anderson, S. C.....	1,026	(1928-31)g/; 1931-
Savannah River near Iva, S. C.....	2,231	1950-
Rocky River near Calhoun Falls, S. C.....	267	1950-
South Beaverdam Creek at Dewy Rose, Ga.....	35.8	1942-
Savannah River near Calhoun Falls, S. C.....	2,876	1896-1900†; 1903; 1930-32; 1938-
Broad River:		
North Fork Broad River near Toccoa, Ga.....	19.3	1954-
North Fork Broad River near Lavonia, Ga.....	42.0	1954-
Toms Creek near Martin, Ga.....	10.3	1954-
North Fork Broad River near Carnesville, Ga.....	119	1942-44; 1954-
Broad River near Carlton, Ga.....	726	1897-1913.
Broad River near Bell, Ga.....	a/1,430	1926-32; 1937-
Little River near Mount Carmel, S. C.....	217	1939-
Little River near McCormick, S. C.....	579	(1928-31)g/.
Little River near Washington, Ga.....	291	1949-
Little River near Lincolnton, Ga.....	574	1943-51.
Clark Hill Reservoir near Clarks Hill, S. C.....	a/6,150	1951-52†; 1952-
Savannah River near Clarks Hill, S. C.....	a/6,150	1940-54††.
Savannah River at Woodlawn, S. C.....	a/6,370	1905-10.
Stevens Creek near Modoc, S. C.....	545	(1929-31)g/ 1940-
Augusta Canal near Augusta, Ga.....	-	1930-
Savannah River at Augusta, Ga.....	7,508	1884-91; 1898-1906; (1925-27)g/; 1927-32; (1932-33)g/; (1933-38) (1933-38)th/; 1938-
Savannah River at Burtons Ferry Bridge, near Millhaven, Ga...	a/8,650	1939-
Brier Creek at Millhaven, Ga.....		1937-
Savannah River near Clio, Ga.....	a/9,850	(1930-33) **g/; 1937-

PART 2-B, OGEECHEE RIVER TO PEARL RIVER

Ogeechee River basin		
Ogeechee River at Jewell, Ga.....	242	1943-44.
Ogeechee River near Louisville, Ga.....	a/800	1937-49.
Williamson Swamp Creek near Davisboro, Ga.....	109	1903-4.
Ogeechee River near Millen, Ga.....	-	1903.
Ogeechee River at Scarboro, Ga.....	a/1,940	1937-
Ogeechee River near Eden, Ga.....	a/2,650	1937-
Canoochee River near Claxton, Ga.....	a/555	1937-
Canoochee River near Groveland, Ga.....	-	1903-7.
Altamaha River basin		
South River (head of Altamaha River) near Lithonia, Ga.....	179	1903-4.
South River near McDonough, Ga.....	436	1939-
Yellow River:		
Wildcat Creek near Lawrenceville, Ga.....	1.59	1953-
Pew Creek near Lawrenceville, Ga.....	2.23	1953-
Beaver Run Creek:		
Shetley Creek near Norcross, Ga.....	0.98	1953-
Yellow River near Snellville, Ga.....	134	1942-
Garner Creek near Snellville, Ga.....	5.54	1953-
Yellow River near Covington (at Almon), Ga.....	396	1897; 1899-1901; 1944-
Yellow River at Flat Shoals, Ga.....	a/440	(1929-32)1/
Alcovy River near Covington, Ga.....	155	1901-4.
Alcovy River below Covington, Ga.....	251	1944-49; (1928-32)1/.
Alcovy River near Steward, Ga.....	291	1905-6.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Unpublished.

** Below 12,000 cfs only.

a/ Approximately.

g/ In House Document 64, 74th Congress, 1st session.

h/ In Bull. 17, South Carolina Research, Planning and Development Board.

th/ In House Document 68, 74th Congress, 1st session.

PART 2-B, OGEECHEE RIVER TO PEARL RIVER

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<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Altamaha River basin--continued		
Ocmulgee River (continuation of South River):		
Lloyd Shoals Reservoir near Jackson, Ga.....	a/1,400	1929- † † †
Ocmulgee River near Jackson, Ga.....	a/1,420	1906-15; 1939-
Ocmulgee River near Floville, Ga.....	a/1,440	1901-5.
Towaliga River near Forsyth, Ga.....	315	1944-49; (1929-32)1/.
Towaliga River near Juliette, Ga.....	357	1899-1901.
Ocmulgee River at Juliette, Ga.....	a/2,100	1916-21.
Ocmulgee River at Macon, Ga.....	a/2,240	1893-1913; (1914-30*)c/; 1931-
Tobesofkee Creek near Macon, Ga.....	182	1937-
Echeconnee Creek near Macon, Ga.....	a/100	1937-43.
Big Indian Creek at Perry, Ga.....	108	1943-
Ocmulgee River at Hawkinsville, Ga.....	a/3,800	(1908-28*)c/; (1929-31)1/; (1932-43*)c/; 1944-
Ocmulgee River at Lumber City, Ga.....	a/5,180	(1908-35*)c/; 1936-
Little Ocmulgee River at Towns, Ga.....	363	1937-46.
Oconee River at Athens, Ga.....	283	(1928-32)1/; 1944-49.
Middle Oconee River:		
Pond Fork of Middle Oconee River:		
Allen Creek at Talmo, Ga.....	17.3	1951-
Middle Oconee River near Athens, Ga.....	398	1901-2; (1929-32)1/; 1937-
Oconee River at Barnett Shoals, near Watkinsville, Ga..	176	1901-2.
Oconee River near Greensboro, Ga.....	a/1,090	1903-23; (1924-31)1/; 1937-
Apalachee River near Bostwick, Ga.....	176	1944-49.
Apalachee River near Buckhead, Ga.....	436	1901-8; 1937-
Oconee River at Carey, Ga.....	a/1,535	1896-98.
Oconee River near Sparta, Ga.....	a/1,830	1949-53.
Little River:		
Murder Creek near Monticello, Ga.....	a/24	1951-
Murder Creek near Eatonton, Ga.....	181	1942-44.
Oconee River at Fraley's Ferry, near Milledgeville, Ga..	a/2,815	1905-8; 1909-23; (1924-31)1/.
Sinclair Reservoir near Milledgeville, Ga.....	a/2,840	1952- † † †
Oconee River at Milledgeville, Ga.....	a/2,950	1903-5; (1932-36*) c/; 1937-
Oconee River at Dublin, Ga.....	a/4,400	(1893*)c/; 1894-97*; 1898-1913; (1914-28*)c/; '1929-31)1/; 1931-
Rocky Creek near Dudley, Ga.....	62.9	1951-
Oconee River near Mount Vernon, Ga.....	a/5,110	1937-
Altamaha River near Baxley, Ga.....	a/11,600	1949-51.
Ohoopsee River near Reidsville, Ga.....	a/1,110	1903-7; 1937-
Altamaha River at Doctortown, Ga.....	a/13,600	(1925-31*)c/; 1931-
<u>Satilla River basin</u>		
Satilla River near Waycross, Ga.....	a/1,300	1937-
Alabama River:		
Hurricane Creek near Alma, Ga.....	a/150	1951-
Little Satilla River near Offerman, Ga.....	646	1951-
Satilla River at Atkinson, Ga.....	a/2,880	1931-
<u>St. Marys River basin</u>		
North Prong St. Marys River at Monticello, Ga.....	a/1,160	1921-23; 1927-30; 1932-34; 1950-
Middle Prong St. Marys River at Taylor, Fla.....	-	1955-
South Prong St. Marys River near Sanderson, Fla.....	-	1955-
Turkey Creek at Macclenny, Fla.....	-	1955-
South Prong St. Marys River at Glen St. Mary, Fla.....	a/150	1950-
St. Marys River near Macclenny, Fla.....	a/1,720	1926-
<u>St. Johns River basin</u>		
St. Johns River:		
Jane Green Creek near Deer Park, Fla.....	248	1953-
St. Johns River near Melbourne, Fla.....	874	1939-
St. Johns River near Christmas, Fla.....	1,418	1933-
Econlockhatchee Headwaters Canal near Wewahatchee, Fla...	-	1942-48***.
Econlockhatchee River near Chuluota, Fla.....	a/260	1935-
St. Johns River above Lake Harney, near Geneva, Fla.....	a/1,910	1951-***

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

*** Discharge measurements only.

a/ Approximately.

c/ In reports of U. S. Weather Bureau.

1/ In House Document 68, 74th Congress, 1st session.

x/ Includes part of watershed in Okefenokee Swamp which is indeterminate.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
St. Johns River basin--continued		
St. Johns River near Sanford, Fla.....	a/2,420	1941- ***
Wekiva River near Sanford, Fla.....	-	1931-35***; 1935-
Blue Spring near Orange City, Fla.....	-	1932- ***
St. Johns River near DeLand, Fla.....	a/2,960	1934-
Haines Creek (head of Oklawaha River):		
Apopka-Beaumont Canal near Astatula, Fla.....	-	1942-48***.
Dead River:		
Palatka Creek near Mascotte, Fla.....	a/160	1945-
Palatka Creek near Okahumpka, Fla.....	-	1945- ***
Haines Creek at Lisbon, Fla.....	3/640	1942-
Oklawaha River at Moss Bluff, Fla.....	8/910	1943***; 1943-35.
Oklawaha River near Ocala, Fla.....	a/1,100	1930-
Silver Springs near Ocala (Silver Springs), Fla.....	-	1906-7* 1933-
Oklawaha River near Conner, Fla.....	-	1930-46.
Oklawaha River at Eureka, Fla.....	a/1,420	1930-34; 1943-52.
Orange Creek:		
Camps Canal near Rochelle, Fla.....	115	1948-52***.
Orange Lake Outlet near Citra, Fla.....	-	1947-55
Lochloosa Creek near Hawthorne, Fla.....	43.3	1947-52***.
Lochloosa Lake Outlet near Lochloosa, Fla.....	-	1947-55
Orange Creek at Orange Springs, Fla.....	431	1941-52***.
Oklawaha River near Orange Springs, Fla.....	a/2,010	1930-52.
Oklawaha River at Riverside Landing, near Orange Springs, Fla.....	a/2,100	1943-
Dunns Creek:		
Little Haw Creek near Seville, Fla.....	a/120	1951-
Rice Creek:		
Etonia Creek near Florahome, Fla.....	172	1949-51.
South Fork Black Creek near Penny Farms, Fla.....	134	1939-
North Fork Black Creek near Middleburg, Fla.....	174	1931-
St. Johns River at Jacksonville, Fla.....	a/7,610	1954-
Moultrie Creek basin		
Moultrie Creek near St. Augustine, Fla.....	23.3	1939-
Tomoka River basin		
Tomoka River near Daytona Beach, Fla.....	-	1941-46.
Spruce Creek basin		
Spruce Creek near Samsula, Fla.....	a/32	1951-
Indian River basin		
Indian River:		
Ellis Canal near Indian River City, Fla.....	-	1954- ***
Elbow Creek near Eau Gallie, Fla.....	2.69	1954-55***; 1955-
Crane Creek near Melbourne, Fla.....	12.6	1951-
Turkey Creek near Palm Bay, Fla.....	95.5	1954- ***
Gost Creek near Valkaria, Fla.....	12.0	1954- ***
South Prong Sebastian Creek near Sebastian, Fla.....	-	1954- ***
North Prong Sebastian Creek near Micco, Fla.....	56.0	1954- ***
Fellsmere Canal near Fellsmere, Fla.....	78.4	1954***; 1955-
North Canal near Vero Beach, Fla.....	-	(1949*) ††; 1950-
Main Canal near Vero Beach, Fla.....	-	(1949-50*) ††; 1950-
South Canal near Vero Beach, Fla.....	-	(1949-50*) ††; 1950-
St. Lucie River basin		
North Fork St. Lucie River at White City, Fla.....	-	1952- ***
Diversion Canal near White City, Fla.....	-	1952- ***
Lake Okeechobee and the Everglades		
Lake Okeechobee, Fla.....	-	(1915-31*)k/; 1931- *
Lake Okeechobee inlets between Caloosahatchee Canal and Fisheating Creek, Fla.....	-	1948-50***.
Fisheating Creek near Venus, Fla.....	a/195	1954-55***; 1955-
Fisheating Creek at Palmdale, Fla.....	a/435	1931-
Fisheating Creek at Lake Okeechobee, Fla.....	-	1948-50*.
Lake Okeechobee inlets between Fisheating Creek and Harney Pond Canal, Fla.....	-	1948-50*.
Harney Pond Canal at Lake Okeechobee, Fla.....	-	1948-50***.
Lake Okeechobee inlets between Harney Pond Canal and Indian Prairie Canal, Fla.....	-	1948-50*.
Indian Prairie Canal near Lakeport, Fla.....	a/320	1931-33.
Indian Prairie Canal near Okeechobee, Fla.....	-	1939-49; 1949-50*.

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

†† Unpublished.

** Discharge measurements only.

a/ Approximately.

k/ In reports or files of Everglades Drainage District.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Lake Okeechobee and the Everglades--continued		
Lake Okeechobee inlets between Indian Prairie Canal and Kissimmee River, Fla.....	-	1948-50*.
Kissimmee River headwaters:		
Brick-Alligator Canal near Ashton, Fla.....	-	1949- ***
Lizzie-Lost Canal near Ashton, Fla.....	1/31.5	1949- ***
Myrtle-Mary Jane Canal near Narcoossee, Fla.....	111	1949-
Mary Jane-Hart Canal near Narcoossee, Fla.....	m/124	1942- ***
Ajay (Hart) -East Tohopekaliga Canal near Narcoossee, Fla.	171	1942- ***
East Lake Tohopekaliga:		
Boggy Creek near Kissimmee, Fla.....	74.7	1955- ***
East Tohopekaliga-Tohopekaliga Canal near St. Cloud, Fla.	300	1942-49***; 1950-
Lake Tohopekaliga:		
Shingle Creek:		
Cypress Creek at Vineland, Fla.....	31.0	1945-
Shingle Creek near Kissimmee, Fla.....	n/182	1955- ***
Tohopekaliga-Cypress Canal near St. Cloud, Fla.....	-	1942-49***; 1950-
Cypress Lake:		
Gentry Lake Outlet near St. Cloud, Fla.....	-	1949-52***.
Canoe Creek near St. Cloud, Fla.....	o/86.5	1949-
Reedy Creek near Loughman, Fla.....	n/117	1939-
Lake Hatchineha:		
Catfish Creek near Lake Wales, Fla.....	58.9	1947-
Hatchineha-Kissimmee Canal near Lake Wales, Fla.....	-	1942-49***; 1949-
Lake Kissimmee:		
Cypress-Kissimmee Canal near Lake Wales, Fla.....	-	1950- ***
Weohyakapka-Rosalie Canal near Lake Wales, Fla.....	-	1942-48***.
Kissimmee River below Lake Kissimmee, Fla.....	p/1,609	1933-
Livingston Creek (head of Istokpoga Canal):		
Reedy Lake Outlet near Frostproof, Fla.....	62.2	1946-
Arbuckle Creek (continuation of Livingston Creek):		
Carter Creek near Sebring, Fla.....	38.8	1954-
Arbuckle Creek near DeSoto City, Fla.....	q/385	1939-
Lake Istokpoga (continuation of Arbuckle Creek):		
Josephine Creek:		
Stearns Creek near Lake Placid, Fla.....	44.0	1955-
Josephine Creek near DeSoto City, Fla.....	r/109	1946-
Istokpoga Canal near Cornwell, Fla.....	624	1934-
Kissimmee River near Cornwell, Fla.....	2,703	(1928-31*)k/; (1931-48*)††; ● 1948-51.
Kissimmee River near Okeechobee, Fla.....	2,886	1930-
Lake Okeechobee inlets into Eagle Bay, near Okeechobee, Fla.	-	1948-50***.
Taylor Creek near Basinger, Fla.....	15.7	1955-
Taylor Creek above Okeechobee, Fla.....	98.7	1955-
Taylor Creek at Okeechobee, Fla.....	a/109	1931-33.
Taylor Creek near Okeechobee, Fla.....	140	1948-50***.
Lake Okeechobee inlets between Taylor Creek and St. Lucie Canal, Fla.....	-	1948-50*.
St. Lucie Canal (at lock 1) at Lake Okeechobee, Fla.....	-	1931-49; 1949-52*.
St. Lucie Canal at lock, near Stuart, Fla.....	-	(1924-48*)k/a/; (1948-52)u/; 1952-
Loxahatchee Slough near Jupiter, Fla.....	-	1946-52***.
West Palm Beach Canal at Canal Point, Fla.....	-	1939-
West Palm Beach Canal at S-5, near Loxahatchee, Fla.....	-	1955-
West Palm Beach Canal at West Palm Beach, Fla.....	-	1939-
Boynton Canal at Boynton Beach, Fla.....	-	1941-43; 1949- ***
Lake Okeechobee Outlet near Belle Glade, Fla.....	-	1940†.
Hillsboro Canal at Belle Glade, Fla.....	-	1940-50; 1954-
Hillsboro Canal above Cross Canal, near Belle Glade, Fla.	-	1950-52***.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Unpublished.

*** Discharge measurements only.

a/ Approximately.

k/ In reports or files of Everglades Drainage District.

l/ Excludes area drained by Brick Lake.

m/ Includes area drained by Econlockhatchee Headwaters Canal above point of diversion.

n/ Includes part of watershed in Reedy Creek Swamp which is indeterminate.

o/ Includes area drained by Brick Lake.

p/ At Highway 60 (includes areas drained by Lake Weohyakapka and Lake Marion).

q/ Excludes area drained by Lake Weohyakapka and includes area drained by Lake Sebring.

r/ Excludes area drained by Lake Sebring.

s/ In reports or files of Corps of Engineers.

INDEX, PART 2, SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

Gaging station	Drainage area (sq mi)	Period of record
Lake Okeechobee and the Everglades--continued		
Hillboro Canal near Deerfield Beach (Deerfield), Fla.....	-	1939-
Pompano (Cypress Creek) Canal at Pompano Beach (Pompano), Fla.....	-	1940-43; 1947-52***.
Middle River Canal near Fort Lauderdale, Fla.....	-	1949-55***.
Plantation Road Canal near Fort Lauderdale, Fla.....	-	1949-55***.
North New River Canal at South Bay, Fla.....	-	1913***; 1939-42*** †; 1942-
Boiles Canal at Okeelanta, near South Bay, Fla.....	-	1940-44***.
North New River Canal at 26-mile bend, near Fort Lauderdale, Fla.....	-	1913***; 1942-52***.
North New River Canal near Fort Lauderdale, Fla.....	-	1913***; 1939-
South New River Canal near Davie, Fla.....	-	1939-41.
South New River Canal at Zook, Fla.....	-	1913***.
Miami Canal at Lake Harbor, Fla.....	-	1913***; 1939-40***; 1941-43.
Miami Canal below junction with South New River Canal, near Miami, Fla.....	-	1941-43***.
Miami Canal at Pennsauco, near Miami, Fla.....	-	1939-43.
Miami Canal lateral at Pennsauco, Fla.....	-	1940-43***.
Miami Canal at water plant, Hialeah, Fla.....	-	1913***; 1940-
Tamiami Canal outlets, Miami to Monroe (west of Miami), Fla...	-	1939-
Tamiami Canal near Coral Gables, Fla.....	-	1940-43.
North Line Canal near Coral Gables, Fla.....	-	1940-43***.
Tamiami Canal at Red Road, Miami, Fla.....	-	1940-43.
Barron River Canal near Everglades, Fla.....	-	1951***; 1952-
Imperial River near Bonita Springs, Fla.....	-	1940-54.
Caloosahatchee Canal (head of Caloosahatchee River) at Moore Haven, Fla.....	-	1938- †
Caloosahatchee Canal near Citrus Center, Fla.....	-	1934-35; 1935-36†.
Caloosahatchee River: Orange River (Twelvemile Creek) near Fort Myers, Fla.....	a/83.4	1935-46.
Peace River basin		
Peace Creek Marsh (head of Peace River): Drainage canal west of Dundee, Fla.....	a/50	1946-
Peace Creek Marsh Outlet near Alturas, Fla.....	a/150	1947-
Lula Lake Outlet at Eloise, Fla.....	a/28	1945-
Peace River at Bartow, Fla.....	a/390	1939-
Kissengen Spring near Bartow, Fla.....	-	1932- ***
Peace River at Zolfo Springs, Fla.....	a/840	1933-
Charlie Apopka Creek:		
Little Charley Bowlegs Creek near Sebring, Fla.....	32.4	1952-
Charlie Apopka Creek near Harrier, Fla.....	a/330	1950-
Peace River at Arcadia, Fla.....	a/1,370	1931-
Joshua Creek at Nocatee, Fla.....	a/115	1950-
Horse Creek near Arcadia, Fla.....	a/205	1950-
Miskka River basin		
Miskka River below Upper Miskka Lake, near Sarasota, Fla.....	-	1946-51.
Miskka River near Sarasota, Fla.....	a/235	1938-
Miskka River below Lower Miskka Lake, near Sarasota, Fla.....	-	1946-51.
Manatee River basin		
Manatee River near Bradenton, Fla.....	a/90	1939-
Little Manatee River basin		
Little Manatee River near Wimsoma, Fla.....	a/145	1939-
Alafia River basin		
North Prong Alafia River at Keyville, Fla.....	a/175	1950-
Alafia River at Lithia, Fla.....	a/335	1933-
Hillsborough River basin		
Hillsborough River:		
Crystal Springs near Zephyrhills, Fla.....	-	1934- ***
Blackwater Creek near Knights, Fla.....	a/110	1951-
Hillsborough River near Zephyrhills, Fla.....	a/220	1939-
Cypress Creek:		
Hanna Lake Outlet near Lutz, Fla.....	-	1946-51.
Hillsborough River near Harney, Fla.....	a/585	1933-39.
Hillsborough River near Tampa, Fla.....	a/650	1938-
Hanna Lake Outlet near Lutz, Fla.....	a/2.7	1946-52.
Beauregard Station at Bearss Ave., near Sulphur Springs, Fla.....	a/12	1946-
Beauregard Springs at Sulphur Springs (Tampa), Fla.....	-	1931-34***.
Blackwater Creek basin		
Blackwater Creek near Sulphur Springs, Fla.....	a/6.4	1951-
Boggy Creek basin		
Boggy Creek near Sulphur Springs, Fla.....	a/35	1953-

† Monthly figures of discharge or contents only.

* Very poor record.

*** Only measurements only.

† Not available.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Alligator Creek basin		
Alligator Creek at Safety Harbor, Fla.....	a/9.0	1949-
Allen Creek basin		
Allen Creek near Largo, Fla.....	a/0.8	1947-51.
Long Bayou basin		
Long Bayou:		
Seminole Lake Outlet near Largo, Fla.....	a/14	1950-
Lake Tarpon basin		
Brooker Creek near Odessa, Fla.....	a/10	1946-
Brooker Creek near Tarpon Springs, Fla.....	a/30	1950-
Anclote River basin		
Anclote River near Elfers, Fla.....	a/67	1946-
Weekiwachee River basin		
Weekiwachee Spring near Brooksville, Fla.....	-	1931- ***
Withlacoochee River basin		
Withlacoochee River:		
Withlacoochee-Hillsborough overflow near Richland, Fla.....	-	1930-31.
Withlacoochee River near Dade City, Fla.....	a/505	1930-33.
Withlacoochee River at Trilby, Fla.....	a/650	1928-29; 1930-
Withlacoochee River at Croom, Fla.....	a/900	1939-
Withlacoochee River near Holder, Fla.....	a/1,710	1928-29; 1931-
Rainbow (Blue) Springs near Dunnellon, Fla.....	-	1931- ***
Waccasassa River basin		
Waccasassa River near Otter Creek, Fla.....	-	1945-53.
Otter Creek at Otter Creek, Fla.....	-	1945-53.
Suwannee River basin		
Suwannee River at Fargo, Ga.....	a/1,260	1921-23*; 1927-31; 1937-
Suwannee River near Benton, Fla.....	a/1,580	1931-34.
Suwannee River at White Springs, Fla.....	a/1,990	1906-8; 1927-
Alapaha River near Alapaha, Ga.....	644	1937-
Big Creek at Lakeland, Ga.....	162	1937-38.
Alapaha River at Mayday, Ga.....	a/1,300	1928-31.
Alapaha River at Statenville, Ga.....	a/1,400	1921; 1931-
Withlacoochee River:		
Little River near Adel, Ga.....	547	1940-
Withlacoochee River near Quitman (Ousley; at Blue Springs), Ga.	a/1,560	1920-21; 1928-31; 1937-48.
Withlacoochee River near Pinetta, Fla.....	a/2,220	1931-
Suwannee River at Ellaville, Fla.....	a/6,580	1927-
Suwannee River at Luraville, Fla.....	a/6,900	1927-37.
Suwannee River at Branford, Fla.....	a/7,090	1931-
Santa Fe River:		
New River near Lake Butler, Fla.....	212	1950-
Santa Fe River at Worthington, Fla.....	a/630	1931-
Santa Fe River near High Springs, Fla.....	a/950	1931-
Santa Fe River near Fort White, Fla.....	a/1,080	1927-30; 1932-
Ichatucknee Springs near Hildreth, Fla.....	-	1931- ***
Suwannee River near Bell, Fla.....	a/9,260	1932-
Suwannee River near Wilcox, Fla.....	a/9,500	1930-31; 1942-51*; 1951-
Steinhatchee River basin		
Steinhatchee River near Cross City, Fla.....	a/360	1950-
Fenholloway River basin		
Fenholloway River at Foley, Fla.....	a/180	1946-
Fenholloway River near Perry, Fla.....	a/210	1946-54***.
Spring (Rocky) Creek near Perry, Fla.....	a/160	1946-55***.
Econfina River basin		
Econfina River near Perry, Fla.....	a/230	1950-
Aucilla River basin		
Aucilla River at Lamont, Fla.....	a/680	1950-
St. Marks River basin		
St. Marks River:		
Wakulla Spring near Crawfordville, Fla.....	-	1931-32***; 1941- ***
Ochlockonee River basin		
Ochlockonee River near Thomasville, Ga.....	a/550	1937-
Tired Creek near Cairo, Ga.....	a/55	1943-
Ochlockonee River near Havana, Fla.....	a/1,020	1928-
Ochlockonee River at Ochlockonee, Fla.....	a/1,050	1926-29.
Little River near Quincy, Fla.....	a/250	1950-
Ochlockonee River near Bloxham, Fla.....	a/1,660	1926-
Telogia Creek near Bristol, Fla.....	130	1950-

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

*** Discharge measurements only.

a/ Approximately.

J/ Includes part of watershed in Okefenokee Swamp which is indeterminate.

Gaging station	Drainage area (sq mi)	Period of record
Apalachicola River basin		
Chattahoochee River (head of Apalachicola River) near Ariel, Ga.	117	1907-9.
Chattahoochee River near Leaf, Ga.	150	1907*; 1940-
Soque River near Demorest, Ga.	156	1904-9; 1929-31; 1940-51.
Mud Creek:		
King Branch near Alto, Ga.	0.42	1944-48.
Chattahoochee River (at Clark's bridge) near Gainesville, Ga.	468	1917-18.
Chattahoochee River near Gainesville, Ga.	559	1901-03; 1937-
Chestatee River near Dahlonga, Ga.	153	1929-31; 1940-
Chestatee River at New Bridge, Ga.	a/240	1917-18.
Chattahoochee River near Buford, Ga.	a/1,060	1901*; 1942-
Chattahoochee River near Norcross, Ga.	a/1,170	1903-46.
Chattahoochee River near Roswell, Ga.	a/1,230	1941-
Chattahoochee River at Atlanta (near Vinings), Ga.	a/1,450	1928-31; 1936-
Chattahoochee River at Oakdale, Ga.	a/1,590	1895-1904.
Sweetwater Creek near Austell, Ga.	246	1904-5; 1913; 1937-
Snake Creek near Whitesburg, Ga.	a/37	1954-
Chattahoochee River near Whitesburg, Ga.	a/2,430	1938-54.
Chattahoochee River at Franklin, Ga.	a/2,680	1929-31.
Yellowjacket Creek near La Grange, Ga.	182	1951-
Chattahoochee River at West Point, Ga.	a/3,550	1896-1910; 1912-
Flat Shoal Creek:		
Mill Creek near Warm Springs, Ga.	0.869	1933-35.
Mountain Creek near Hamilton, Ga.	61.7	1943-
Bartlett's Ferry Reservoir near Columbus, Ga.	a/4,200	(1929-†)††
Chattahoochee River at Columbus, Ga.	a/4,670	1912; 1929-
Upatoi Creek at Fort Benning, Ga.	447	1942-47.
Uchee Creek at Fort Mitchell, Ala.	325	1953-
Barbour Creek near Eufaula, Ala.	93.3	1953-
Chattahoochee River at Columbia, Ala.	a/8,040	1928-
Chattahoochee River at Alaga, Ala.	a/8,340	1908-12*; 1938-44.
Flint River near Griffin, Ga.	272	1937-
Flint River near Molena, Ga.	a/990	1897*; 1898; 1945-53.
Flint River near Woodbury, Ga.	a/1,090	1900-1923.
North Springs at Warm Springs, Ga.	-	1933-35.
Potato Creek near Thomaston, Ga.	186	1938-
Swift Creek:		
Little Potato (Tobler) Creek near Yatesville, Ga.	-	1914-18.
Flint River near Culloden, Ga.	a/1,890	1911-23; 1928-31; 1937-
Flint River near Musella, Ga.	-	1907.
Whitewater Creek near Butler, Ga.	a/75	1943-51.
Whitewater Creek below Rambulette Creek, near Butler, Ga.	93.4	1951-
Flint River at (near) Montezuma, Ga.	a/2,900	1905-9; 1911-12; 1930-33; 1934-; (1904-*)c/
Flint River near Vienna, Ga.	a/3,440	1928-30.
Flint River at Oakfield, Ga.	a/3,800	1930-33; 1934-
Kinchafoonee Creek at Preston, Ga.	197	1951-
Kinchafoonee Creek near Leesburg, Ga.	a/480	1905-9; 1920-21.
Kinchafoonee Creek near Albany, Ga.	-	1903.
Muckalee Creek near Albany, Ga.	-	1903.
Flint River at Albany, Ga.	a/5,230	(1893-96*)c/; 1897-1901*; 1902-21; (1922-28*)c/; 1929-
Flint River at Newton, Ga.	a/5,740	1938-47.
Ichawaynochaway Creek at Milford, Ga.	a/620	1905-7; 1939-
Alligator Creek near Milford, Ga.	-	1942-52.
Chickasawhatchee Creek at Elmodel, Ga.	a/320	1939-49.
Ichawaynochaway Creek near Newton, Ga.	a/1,000	1920-21; 1937-47.
Big Cypress Creek near Milford, Ga.	-	1942-49.
Flint River at Bainbridge, Ga.	a/7,350	(1904-7*)c/; 1908-13; (1914-27*)c/; 1928-
Spring Creek:		
Long Branch near Damascus, Ga.	-	1945-49.
Spring Creek near Iron City, Ga.	a/520	1920-21; 1937-
Apalachicola River:		
Jim Woodruff Reservoir at Chattahoochee, Fla.	a/17,100	1954-†
Apalachicola River at Chattahoochee (River Junction), Fla.	a/17,100	(1919-27*)c/; 1928-
Mosquito Creek at Chattahoochee, Fla.	a/60	1936-42.
Chipola River near Altha, Fla.	781	1912-13; 1921-27; 1929-31; 1943-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Unpublished.

a/ Approximately.

c/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Bear Creek basin</u>		
<u>Bear Creek:</u>		
Econfina Creek near Bennett, Fla.....	182	1935-
<u>Choctawhatchee River basin</u>		
West Fork Choctawhatchee River at Blue Springs, Ala.....	84.7	1943-53.
East Fork Choctawhatchee River near Midland City, Ala..	297	1952-
Choctawhatchee River near Newton, Ala.....	683	1906-8; 1911-12*; 1921-27; (1931-34*)c/; 1935-
Choctawhatchee River near Bellwood, Ala.....	1,260	1921-25; (1926*)c/
Choctawhatchee River near Geneva, Ala.....	1,347	1904*; 1922-25.
Double Bridges Creek at Geneva, Ala.....	194	1904*.
Pea River near Arlton, Ala.....	492	1938-
Whitewater Creek at Elba, Ala.....	328	1943-45.
Pea River at Elba, Ala.....	966	1906*; (1931-34*)c/; 1935-47*; (1948*)c/
Pea River (at Pera) near Samson, Ala.....	1,187	1904-13; 1922-25; 1935-
Pea River near Geneva, Ala.....	1,560	1922-25.
Choctawhatchee River at Caryville, Fla.....	3,499	(1928*)c/; 1929-
Holmes Creek at Vernon, Fla.....	386	1950-
Choctawhatchee River near Bruce, Fla.....	4,384	1930-
<u>Alaqua Creek basin</u>		
Alaqua Creek near DePuniak Springs, Fla.....	65.6	1951-
<u>Yellow River basin</u>		
<u>Yellow River:</u>		
Lightwood Knot (Poley) Creek at Babbie, Ala.....	113	1944-53.
Yellow River at Milligan, Fla.....	624	1938-
Shoal River near Mossy Head, Fla.....	123	1951-
Shoal River near Crestview, Fla.....	474	1938-
Yellow River near Holt, Fla.....	a/1,220	1933-41.
<u>Blackwater River basin</u>		
Blackwater River near Baker, Fla.....	205	1950-
Coldwater Creek near Milton, Fla.....	237	1938-
<u>Escambia River basin</u>		
Conecuh River (head of Escambia River) near Troy, Ala....	253	1943-53.
Conecuh River at Brantley, Ala.....	492	1937-
Patsaliga Creek at Luverne, Ala.....	249	1943-
Conecuh River (at Beck) near Andalusia, Ala.....	1,343	1904-19; 1929-52.
Sepulga River near McKenzie, Ala.....	464	1937-
Pigeon Creek near Thad, Ala.....	296	1937-
Conecuh River near Brooklyn, Ala.....	2,460	1935-
Murder Creek near Evergreen, Ala.....	170	1937-
Escambia Creek (River) at Flomaton, Ala.....	323	1939-51.
Escambia River near Century, Fla.....	3,617	1934-
Pine Barren Creek near Barth, Fla.....	75.3	1952-
<u>Perdido River basin</u>		
Perdido River at Barrineau Park, Fla.....	394	1941-
Perdido River at Muscogee, Fla.....	-	1922*.
Styx River near Loxley, Ala.....	92.5	1951-
Blackwater River near Seminole, Ala.....	-	1922*.
<u>Fish River basin</u>		
Fish River near Silver Hill, Ala.....	55.8	1953-
<u>Mobile River basin</u>		
Cartecay River (head of Mobile River) near Cartecay, Ga..	a/90	1904-5; 1907; 1918-21.
Cartecay River near Ellijay, Ga.....	135	1937-
Ellijay River at Ellijay, Ga.....	a/90	1907; 1918-21; 1953-
Coosawattee River (continuation of Cartecay River) near Ellijay, Ga.....	238	1938-49.
Mountaintown Creek near Ellijay, Ga.....	a/32	1939-42.
Coosawattee River near Carters, Ga.....	376	1925-31.
<u>Talking Rock Creek:</u>		
Scarecorn Creek at Hinton, Ga.....	20.5	1939-42.
Coosawattee River at Carters, Ga.....	531	1896-1908; 1918-23.
<u>Sallacoa Creek:</u>		
<u>Pine Log Creek:</u>		
<u>Little Pine Log Creek:</u>		
Rock Creek (Rocky Branch) near Fairmount, Ga.....	5.61	1951-
Coosawattee River at Pine Chapel, Ga.....	856	1938-
Conasauga River near Tennega, Ga.....	111	1929-31; 1943-47.

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

a/ Approximately.

c/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mobile River basin--continued		
Coosawatee River--continued		
Conasauga River at Beavertdale, Ga.....	182	1907-8.
Coahulla Creek near Varnell, Ga.....	a/87	1939-42.
Mill Creek at Dalton, Ga.....	a/37	1943-
Holly Creek:		
Rock Creek at Ramhurst, Ga.....	16.5	1939-40.
Bear Creek near Dalton, Ga.....	16.5	1939-40.
Conasauga River at Tilton, Ga.....	682	1937-
Oostanaula River (continuation of Coosawatee River) at Resaca, Ga.....	a/1,610	(1892-95*)c/; 1896-
Armuchee Creek:		
West Armuchee Creek near Subligna, Ga.....	31.0	1939-40.
Oostanaula River near (at) Rome, Ga.....	a/2,120	1939-
Etowah River near Dawsonville, Ga.....	103	1940-
Amicalola Creek:		
East Amicalola Creek at Juno, Ga.....	28.4	1939-42.
Amicalola Creek (River near Potts Mountain) near Dawsonville, Ga.....	84.7	1907-8*; 1910-12; 1913*; 1939-52.
Long Swamp Creek near Ball Ground, Ga.....	a/74	1918-21.
Etowah River near Ball Ground, Ga.....	466	1907-15; 1918-21.
Sharp Mountain Creek near Ball Ground, Ga.....	64.0	1939-40.
Etowah River at Canton, Ga.....	605	(1891*)c/; 1892-94*; 1895-1905; (1906-36*)c/; 1937-
Little River near Roswell, Ga.....	60.5	1947-
Noonday Creek near Woodstock, Ga.....	51.5	1939.
Allatoona Reservoir near Cartersville, Ga.....	a/1,110	1949-†
Etowah River at Allatoona Dam above Cartersville, Ga..	a/1,110	1938-
Pumpkinvine Creek near Dallas, Ga.....	83.8	1947-48.
Etowah River near Kingston, Ga.....	a/1,630	1928-31; 1936-
Dikes Creek near Rome, Ga.....	14.1	1939-42.
Etowah River at (near) Rome, Ga.....	a/1,810	1903-21; 1939-
Silver Creek near Rome, Ga.....	44.5	1939.
Coosa River (continuation of Oostanaula River) near (at) Rome, Ga.....	a/4,040	1897-1903; (1922-27*)c/; 1928-31; 1937-
Cedar Creek near Cedartown, Ga.....	109	1942-
Chattooga River at Summerville, Ga.....	193	1937-
Chattooga River at Gaylesville, Ala.....	377	1937-
Little River near Jamestown, Ala.....	120	1928-32; 1935-49.
Coosa River at Leesburg, Ala.....	a/5,270	1937-
Terrapin Creek near Piedmont, Ala.....	115	1944-54.
Coosa River at Gadsden, Ala.....	a/5,800	(1890-1925*)c/; 1926-
Big Wills Creek near Crudup, Ala.....	185	1943-
Big Canoe Creek near Gadsden, Ala.....	256	1938-
Coosa River at lock 4, above Riverside, Ala.....	-	1890-1901*.
Coosa River at Riverside, Ala.....	a/7,060	1896-1916.
Coosa River at lock 5, near Riverside, Ala.....	-	1892-99*.
Choccolocco Creek:		
Coldwater Spring near Anniston, Ala.....	-	1944-47.
Choccolocco Creek near Jennifer, Ala.....	281	1903-8; 1929-32; 1935-
Choccolocco Creek near Lincoln, Ala.....	499	1938-53.
Coosa River near Cropwell, Ala.....	a/7,690	1942-
Kelly Creek near Vincent, Ala.....	192	1951-
Talladega Creek near Talladega, Ala.....	98.4	1952-
Talladega Creek at Alpine (Nottingham), Ala.....	148	1900-1904; 1939-51.
Coosa River at Childersburg, Ala.....	a/8,390	1914-
Yellowleaf Creek near Wilsonville, Ala.....	97.2	1950-
Coosa River at lock 12, near Clanton, Ala.....	a/9,030	1912-14.
Hatchet Creek near Rockford, Ala.....	244	1944-
Weogufka Creek near Weogufka, Ala.....	73.6	1950-
Coosa River at Mitchell Dam, near Verbena, Ala.....	a/9,830	1925-28.
Sofkahatchee Creek near Wetumpka, Ala.....	5.1	1953-
Coosa River Reservoirs in Alabama.....	-	1939-†
Coosa River at Jordan Dam (lock 18) near Wetumpka, Ala...	a/10,200	1912-14; 1925-
Coosa River near Wetumpka, Ala.....	-	1896-98*.
Tallapoosa River near Heflin, Ala.....	a/444	1952-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximateley.

c/ In reports of U. S. Weather Bureau.

Gaging station	Drainage area (sq mi)	Period of record
Mobile River basin--continued		
Coosa River--continued		
Tallapoosa River near Ofelia, Ala.....	a/787	1939-51.
Little Tallapoosa River at Carrollton, Ga.....	a/89	1937-
Little Tallapoosa River near Wedowee, Ala.....	592	1913-14*; 1939-51.
Tallapoosa River near Cragford, Ala.....	a/1,460	1922-30.
Tallapoosa River at Wadley, Ala.....	a/1,660	1923-
Hillabee Creek near Hackneyville, Ala.....	196	1952-
Hillabee Creek near Alexander City, Ala.....	284	1900-1903.
Tallapoosa River at Sturdivant, Ala.....	a/2,460	1900-1926.
Big Sandy Creek near Dadeville, Ala.....	195	1900-1901.
Tallapoosa River near Susanna, Ala.....	a/2,610	1900-1901.
Lake Martin on Tallapoosa River in Alabama.....	a/3,000	1927-†
Tallapoosa River at Cherokee Bluffs, near Tallassee, Ala.	a/3,000	1912-14; 1922-26.
Tallapoosa River below Tallassee, Ala.....	a/3,320	1928-
Uphabee Creek near Tuskegee, Ala.....	330	1939-
Tallapoosa River at Milstead, Ala.....	a/3,750	1897-1903.
Alabama River (continuation of Coosa River) near (at)		
Montgomery, Ala.....	a/15,100	(1890-98*)c/; 1899-1903*; (1904-26*)c/; 1927-
Autauga Creek at Prattville, Ala.....	109	1939-
Ostoma Creek at Montgomery, Ala.....	298	1952-
Big Swamp Creek near Haynesville, Ala.....	123	1939-46.
Big Swamp Creek near Lowndesboro, Ala.....	247	1937-38; 1940-
Mulberry River at Jones, Ala.....	208	1938-
Alabama River at Selma, Ala.....	a/17,100	(1890-98*); 1899; 1900-1913; (1914-27*)c/; 1928-
Cahaba River near Acton, Ala.....	230	1938-
Cahaba River at Centerville, Ala.....	1,029	1901-8; (1927-28*)c/; 1929-32; (1933-34*)c/; 1935-
Cahaba River at Sprott, Ala.....	1,378	1938-44*; 1944-
Cahaba River near Marion Junction, Ala.....	1,768	1939-54; (1955-*)c/
Cedar Creek at Minter, Ala.....	217	1952-
Boguechitto Creek near Browns, Ala.....	104	1944-54.
Boguechitto Creek at Boguechitto, near Orrville, Ala.....	197	1938-44.
Boguechitto Creek near Orrville, Ala.....	292	1944-49.
Alabama River near Millers Perry, Ala.....	a/20,700	(1931-36*)c/; 1937-54; (1955-*)c/
Alabama River near Coy, Ala.....	a/21,200	1928-34.
Flat Creek at Fountain, Ala.....	245	1944-
Limestone Creek near Monroeville, Ala.....	117	1951-
Alabama River at Claiborne, Ala.....	a/22,000	1930-
East Fork Tombigbee River:		
Mackys Creek near Dennis, Miss.....	a/66	1938-43†; 1944-
East Fork Tombigbee River near Marietta, Miss.....	305	1938-50.
East Fork Tombigbee River near Fulton, Miss.....	605	(1909-12*)c/; 1928-
East Fork Tombigbee River at Beans Ferry, near Fulton, Miss.....	699	1937-47.
East Fork Tombigbee River near Smithville, Miss.....	741	1937-45.
Bull Mountain Creek at Tremont, Miss.....	a/120	1940-
Bull Mountain Creek near Smithville, Miss.....	335	1940-
East Fork Tombigbee River at Bigbee, Miss.....	1,194	1945-46; 1947-
Oldtown Creek (head of West Fork Tombigbee River) at Tupelo, Miss.....	112	1944-46; 1951-
Mud Creek:		
Euclautubba Creek at Saultillo, Miss.....	19.7	1951-
Mud Creek at Tupelo, Miss.....	a/92	1943-46.
Oldtown Creek near Verona, Miss.....	263	1943-47.
Chiwapa Creek at Shannon, Miss.....	136	1951-
West Fork Tombigbee River near Nettleton, Miss.....	617	1939-
Tombigbee River at Amory (Wren), Miss.....	1,941	1937-
Tombigbee River at Aberdeen, Miss.....	a/2,210	1928-
Buttahatchee River below Hamilton, Ala.....	284	1950-
Buttahatchee River near Hamilton, Ala.....	316	1941-50.
Buttahatchee River near Sulligent, Ala.....	472	1939-
Buttahatchee River near Caledonia, Miss.....	823	1928-32; 1943-51.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

c/ In report of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mobile River basin--continued		
Alabama River--continued		
Tombigbee River--continued		
Tibbee Creek:		
Chookatonchee (Sakatonchee) Creek near Egypt, Miss.....	a/170	1951-
Chookatonchee (Sakatonchee) Creek near West Point, Miss.	514	1943-46; 1947-
Tibbee Creek (River) near Tibbee, Miss.....	928	1928-30; 1939-
Tombigbee River at Columbus, Miss.....	a/4,490	(1890-99*)c/; 1900-12; (1913-27*)c/; 1928-
Luxapalila Creek near Fayette, Ala.....	127	1945-
Luxapalila Creek at Millport, Ala.....	241	1954-
Luxapalila Creek near Steens, Miss.....	309	1939-43***; 1943-47; 1949-
Luxapalila Creek near Columbus, Miss.....	728	1928-30.
Coal Fire Creek near Pickensville, Ala.....	131	1954-
Tombigbee River near Cochran, Ala.....	a/5,990	(1909-24*)c/; 1939-
Lubbub Creek near Carrollton, Ala.....	116	1954-
Sipsey River at Fayette, Ala.....	276	1939-
Sipsey River at Moores Bridge, Ala.....	403	1939-51.
Sipsey River near Elrod, Ala.....	518	1928-32; 1939-
Sipsey River near Pleasant Ridge, Ala.....	753	1939-43*; 1943-
Noxubee River near Brooksville, Miss.....	a/440	1940-42; 1944-
Noxubee River at Macon, Miss.....	812	1928-32; 1938-
Noxubee River near Geiger, Ala.....	1,140	1939-40; 1944-
Tombigbee River at Gainesville, Ala.....	a/8,700	(1937*)c/; 1938-
Tombigbee River at Epes, Ala.....	a/8,970	1900*; 1901; 1905-13; 1939-45.
Mulberry Fork (head of Black Warrior River)		
near Garden City, Ala.....	368	1928-
Sipsey Fork near Falls City, Ala.....	365	1943-54.
Clear Creek at Falls City (near Elk), Ala.....	147	1904-5*; 1939-54.
Sipsey Fork near Arley, Ala.....	529	1936-45.
Sipsey Fork near Jasper, Ala.....	971	1952-
Sipsey Fork near Sipsey, Ala.....	994	1928-37.
Blackwater Creek near Manchester, Ala.....	188	1938-
Mulberry Fork near Cordova, Ala.....	1,927	1900-1912.
Lost Creek near Oakman, Ala.....	130	1951-
Locust Fork below Snead, Ala.....	147	1952-
Locust Fork near Cleveland, Ala.....	309	1936-
Locust Fork at Trafford, Ala.....	625	1930-
Turkey Creek at Morris, Ala.....	81.5	1944-
Locust Fork at Sayre (near Warrior), Ala.....	887	1928-32; 1942-45*; 1945-
Fivemile Creek at Ketons, Ala.....	22.8	1953-
Fivemile Creek at Tarrant City, Ala.....	24.6	1936.
Locust Fork at Palos, Ala.....	1,033	1902-5.
Village Creek at Ensley, Ala.....	37.8	1936.
Camp Branch near Ensley, Ala.....	7.5	1909†; 1910.
Venison Branch near Mulga, Ala.....	3.7	1909†.
Village Creek near Mulga, Ala.....	74.7	1909; 1910*.
Village Creek near Adamsville, Ala.....	84.1	1953-
Black Warrior River near Coal, Ala.....	3,593	1908-10.
Valley Creek near Bessemer, Ala.....	50.6	1936.
Valley Creek near Oak Grove, Ala.....	145	1936; 1953-
Black Warrior River at lock 17, near Bessemer, Ala.....	3,990	1928-36†.
Yellow Creek near Tuscaloosa, Ala.....	24.2	1951-54.
Hurricane Creek near Holt, Ala.....	108	1952-
North River near Samantha, Ala.....	219	1938-54.
North River near Tuscaloosa, Ala.....	366	1951-
Black Warrior River at Tuscaloosa, Ala.....	4,828	1889-94*; 1895-1902; 1903-5*; 1928-
Fivemile Creek near Greensboro, Ala.....	72.2	1954-
Black Warrior River near Eutaw, Ala.....	5,797	1932-
Prairie Creek near Gallion, Ala.....	169	1940-52.
Tombigbee River near Coatopa, Ala.....	a/15,500	1928-
Sucarnoochee River at Livingston, Ala.....	606	1938-
Alamuchee Creek near Cuba, Ala.....	a/63	1954-
Chickasaw Bogue near Linden, Ala.....	258	1944-46.

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‡ Fragmentary record.

*** Discharge measurements only.

a/ Approximately.

c/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mobile River basin--continued		
Alabama River--continued		
Tombigbee River--continued		
Kinterbish Creek near York, Ala.....	91.4	1954-
Tuckabum Creek near Butler, Ala.....	112	1954-
Tombigbee River near Leroy, Ala.....	a/19,100	1928-
Mobile River at Mt. Vernon, Ala.....	a/43,000	1953-54.
Chickasaw Creek near Whistler, Ala.....	124	1951-
Pascagoula River basin		
Leaf River (head of Pascagoula River):		
Oskahay Creek at Mize, Miss.....	217	1943-49.
Leaf River near Collins, Miss.....	752	1938-
Bowie Creek near Hattiesburg, Miss.....	304	1938-
Leaf River at Hattiesburg, Miss.....	a/1,760	(1904-37*)c/; 1938-
Tallahala Creek at Laurel, Miss.....	233	1938-
Tallahoma Creek near Laurel, Miss.....	149	1941-48.
Tallahala Creek near Runnelstown, Miss.....	612	1939-
Leaf River near McLain, Miss.....	a/3,510	1939-
Chunky Creek (head of Chickasawhay River) near Chunky, Miss...	368	1938-
Okatibbee Creek near Meridian, Miss.....	239	1938-50.
Sowashee Creek at Meridian, Miss.....	51.9	1950-
Chickasawhay River at Enterprise, Miss.....	913	(1904-37*)c/; 1938-
Chickasawhay River near Waynesboro, Miss.....	a/1,660	1938-50.
Buckatunna Creek at Denham, Miss.....	468	1939-49.
Chickasawhay River at Leakesville, Miss.....	a/2,680	1938-
Pascagoula River at Merrill, Miss.....	a/6,600	(1904-29*)c/; 1930-
Escatawpa River near Wilmer, Ala.....	a/506	1945-
Big Creek near Mobile, Ala.....	a/84	1944-50.
Tchoutacabouffa River basin		
Tchoutacabouffa River:		
Tuxachanie River near Biloxi, Miss.....	89.6	1952-
Biloxi River basin		
Biloxi River near Wortham, Miss.....	98.3	1952-
Wolf River basin		
Wolf River near Lyman, Miss.....	253	1944-48.
Pearl River basin		
Pearl River at Edinburg, Miss.....	898	(1908-27*)c/; 1928-
Lobutchka Creek near Carthage, Miss.....	313	1937-
Tuscolameta Creek at Walnut Grove, Miss.....	411	1939-
Pearl River at Lena, Miss.....	1,995	1936-53.
Yockanookany (Yokanockany) River near Kosciusko, Miss.....	314	1938-
Yockanookany (Yokanockany) River near Ofahoma, Miss.....	484	1943-
Pearl River at Meeks Bridge, near Canton, Miss.....	a/2,780	1939-
Pelshatchie Creek near Fannin, Miss.....	205	1951-
Pearl River at Jackson, Miss.....	a/3,100	1901-2*; 1903-12; 1913*; (1914-27*)c/; 1928-
Pearl River at Byram, Miss.....	a/3,430	1939.
Pearl River near Georgetown, Miss.....	a/3,790	1939.
Strong River at Dlo, Miss.....	429	1928-
Pearl River near Rockport, Miss.....	a/4,600	1939-51.
Pearl River near Monticello, Miss.....	a/5,040	1938-
Pearl River near Columbia, Miss.....	a/5,690	(1904-27*)c/; 1928-54; (1955- *)c/
Pearl River near Bogalusa, La.....	a/6,630	1938-
Bogue Lusa near Franklinton, La.....	12.1	1948-
Bogue Chitto near Tylertown, Miss.....	502	1944-
Bogue Chitto at Warnerton, La.....	-	1906.
Bogue Chitto at Franklinton, La.....	985	(1922-27*)c/; 1928-31; (1932-37*)c/; 1938-
Bogue Chitto near Bush, La.....	a/1,210	1937-

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a/ Approximately.

c/ In reports of U. S. Weather Bureau.

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Alligator Creek, Fla.....	13	Bull Mountain Creek, Miss.....	17
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Apalachee River, Ga.....	9	Camp Branch, Ala.....	18
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Apopka-Beaulair Canal, Fla.....	10	Canoe Creek, Fla.....	11
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Armuchee Creek, Ga.....	16	Carter Creek, Fla.....	11
Aucilla River, Fla.....	13	Catawba Creek, N. C.....	6
Augusta Canal, Ga.....	8	Catawba Creek, Va.....	2
Autauga Creek, Ala.....	17	Catawba River, N. C.-S. C.....	6
Back Creek (tributary to Jackson River), Va.	2	Catawba River, South Fork, N. C.....	6
Back Creek (tributary to Roanoke River), Va.	3	Catfish Creek, Fla.....	11
Banister River, Va.....	4	Catoma Creek, Ala.....	17
Barbour Creek, Ala.....	14	Cedar Creek, Ala.....	17
Barron River Canal, Fla.....	12	Cedar Creek, Ga.....	16
Bartlett's Perry Reservoir, Ga.....	14	Charlie Apopka Creek, Fla.....	12
Bear Creek, Fla.....	15	Chattahoochee River, Ala.-Ga.....	14
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Big Bear Creek, N. C.....	5	Chestatee River, Ga.....	14
Big Canoe Creek, Ala.....	16	Chickahominy River, Va.....	3
Big Creek, Ala.....	19	Chickasaw Bogue, Ala.....	18
Big Creek, Ga.....	13	Chickasaw Creek, Ala.....	19
Big Cypress Creek, Ga.....	14	Chickasawhatchee Creek, Ga.....	14
Big Indian Creek, Ga.....	9	Chickasawhay River, Miss.....	19
Big Sandy Creek, Ala.....	17	Chipola River, Fla.....	14
Big Spring, Va.....	2	Chiwapa Creek, Miss.....	17
Big Springs, Va.....	3	Choccolocco Creek, Ala.....	16
Big Swamp Creek, Ala.....	17	Choctawhatchee River, Ala.-Fla.....	15
Big Willa Creek, Ala.....	16	Choctawhatchee River, East Fork, Ala...	15
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Black Creek, North Fork, Fla.....	10	Chookatonchee (Sakatonchee) Creek, Miss.	18
Black Creek, South Fork, Fla.....	10	Chowan River, Va.....	3
Black River, N. C.....	5	Chunky Creek, Miss.....	19
Black River, S. C.....	6	Clark Hill Reservoir, S. C.....	8
Black Warrior River, Ala.....	18	Clear Creek, Ala.....	18
Blackwater Creek, Ala.....	18	Coahulla Creek, Ga.....	16
Blackwater Creek, Fla.....	12	Coal Fire Creek, Ala.....	18
Blackwater River, Ala.....	15	Coharie Creek, N. C.....	5
Blackwater River, Fla.....	15	Coldwater Creek, Fla.....	15
Blackwater River (Chowan River Basin), Va..	3	Coldwater Spring, Ala.....	16
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Cypress Creek, Fla. See Pompano Canal.	12	Georges Creek, Va.....	4
Cypress Creek (tributary to Hillsborough River), Fla.....	12	Goat Creek, Fla.....	10
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East Tohopekaliga-Tohopekaliga Canal, Fla...	11	Ichatucknee Springs, Fla.....	13
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Econfina River, Fla.....	13	Indian Creek, N. C.....	6
Econlockhatchee Headwaters Canal, Fla.....	9	Indian Prairie Canal, Fla.....	10
Econlockhatchee River, Fla.....	9	Indian River, Fla.....	10
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Little Creek, N. C.....	4	Mobile River, Ala.....	19
Little Felling River, Va.....	3	Moccasin Creek, N. C.....	4
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Little Pee Dee River, S. C.....	6	Moultrie Creek, Fla.....	10
Little Pine Log Creek, Ga.....	15	Mountain Creek, Ga.....	14
Little Potato (Tobler) Creek, Ga.....	14	Mountain Creek, N. C.....	6
Little Raft Swamp, N. C.....	6	Mountaintown Creek, Ga.....	15
Little River, Ala.....	16	Muckalee Creek, Ga.....	14
Little River, Fla.....	13	Mud Creek, Ga.....	14
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Ga.....	16	Muddy Creek, N. C.....	5
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Long Swamp Creek, Ga.....	16	Northeast Cape Fear River, N. C.....	5
Lost Creek, Ala.....	18	Nottoway River, Va.....	3
Lower Little River, N. C.....	6	Noxubee River, Ala.-Miss.....	18
Loxahatchee Slough, Fla.....	11	Oakahay Creek, Miss.....	19
Lubbub Creek, Ala.....	18	Ochlockonee River, Fla.-Ga.....	13
Lula Lake Outlet, Fla.....	12	Ocmulgee River, Ga.....	9
Lumber River, N. C.....	6	Oconee River, Ga.....	9
Luxapalila Creek, Ala.-Miss.....	18	Ogeechee River, Ga.....	8
Lynches River, S. C.....	6	Ohoopce River, Ga.....	9
Mackys Creek, Miss.....	17	Okatibbee Creek, Miss.....	19
Main Canal, Fla.....	10	Oklawaha River, Fla.....	10
Manatee River, Fla.....	12	Oldtown Creek, Miss.....	17
Mary Jane-Hart Canal, Fla.....	11	Oostanaula River, Ga.....	16
Mathis Reservoir, Ga.....	7	Orange Creek, Fla.....	10
Maury (North) River, Va.....	2	Orange Lake Outlet, Fla.....	10
Mayo River, N. C.....	3	Orange River (Twelvemile Creek), Fla..	12
Meadow Creek, Va.....	2	Otter Creek, Fla.....	13
Mechum River, Va.....	2	Otter River, Va.....	3
Meherrin River, Va.....	3	Pacolet River, S. C.....	6
Miakka River, Fla.....	12	Palatka Creek, Fla.....	10

ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

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Patsaliga Creek, Ala.....	15	Sapony Creek, N. C.....	4
Pea River, Ala.....	15	Satilla River, Ga.....	9
Peace Creek Marsh, Fla.....	12	Savannah River, Ga.-S. C.....	7-8
Peace Creek Marsh outlet, Fla.....	12	Scarecorn Creek, Ga.....	15
Peace River, Fla.....	12	Seacock Creek, Va.....	3
Pearl River, La.-Miss.....	19	Sebastian Creek, North Prong, Fla.....	10
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Pee Dee River, N. C.-S. C.....	5-6	Second Broad River, N. C.....	6
Pelahatchie Creek, Miss.....	19	Seminole Lake Outlet, Fla.....	13
Perdido River, Fla.....	15	Seneca River, S. C.....	8
Pew Creek, Ga.....	8	Sepulga River, Ala.....	15
Pigeon Creek, Ala.....	15	Seven Swamp, N. C.....	5
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Piney River, Va.....	2	Shoal River, Fla.....	15
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Poley Creek. See Lightwood Knot Creek.	15	Silver Springs, Fla.....	10
Pompano Canal, Fla.....	12	Sinclair Reservoir, Ga.....	9
Pond Fork of Middle Oconee River, Ga.....	9	Sipsey Fork, Ala.....	18
Potato Creek, Ga.....	14	Sipsey River, Ala.....	18
Potts Creek, Va.....	2	Slate River, Va.....	2
Prairie Creek, Ala.....	18	Smith Creek, Va.....	2
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Purgatory Creek, Va.....	2	Snake Creek near Whitesburg, Ga.....	14
Raft Swamp, N. C.....	6	Snow Creek, Va.....	3
Rainbow (Blue) Springs, Fla.....	13	Sofkahatchee Creek, Ala.....	16
Reddies River, N. C.....	5	Soque River, Ga.....	14
Reedy Creek, Fla.....	11	South Beaverdam Creek, Ga.....	8
Reedy Creek, N. C.....	5	South Buffalo (Buffalo) Creek, N. C....	4
Reedy Fork, N. C.....	4	South Canal, Fla.....	10
Reedy Lake Outlet, Fla.....	11	South Fork. See name of main stream.	
Reedy River, S. C.....	7	South New River Canal, Fla.....	12
Rice Creek, Fla.....	10	South Pacolet River Reservoir, S. C....	6
Richardson Creek, N. C.....	5	South Prong. See name of main stream.	
Rivanna River, Va.....	2	South River, Ga.....	8
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Roanoke River, South Fork, Va.....	3	South Yadkin River, N. C.....	5
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Rock Fish Creek, N. C.....	5	Spruce Creek, Fla.....	10
Rockfish Creek, N. C.....	5	Stearns Creek, Fla.....	11
Rockfish River, Va.....	2	Steinhatchee River, Fla.....	13
Rocky Branch. See Rock Creek.	15	Stekoa Creek, Ga.....	7
Rocky Creek (Fenholloway River Basin), Fla.		Stevens Creek, S. C.....	8
See Spring Creek.	13	Stony Creek, N. C.....	4
Rocky Creek (Rocky Creek Basin), Fla.....	12	Stony Creek, Va.....	3
Rocky Creek, Ga.....	9	Strong River, Miss.....	19
Rocky Creek, S. C.....	6	Stuart Spring, Va.....	2
Rocky River (tributary to Pee Dee River),		Styx River, Ala.....	15
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St. Johns River, Fla.....	9-10	Sweetwater Creek, Ga.....	14
St. Lucie Canal, Fla.....	11	Swift Creek, Ga.....	14
St. Lucie River, Fla.....	10	Swift Creek, N. C.....	4
St. Lucie River, North Fork, Fla.....	10	Swift Creek, Va.....	3
St. Marks River, Fla.....	13	Talking Rock Creek, Ga.....	15
St. Marys River, Fla.-Ga.....	9	Talladega Creek, Ala.....	16
St. Marys River, Middle Prong, Fla.....	9	Tallahala Creek, Miss.....	19
St. Marys River, North Prong, Ga.....	9	Tallahoma Creek, Miss.....	19
St. Marys River, South Prong, Fla.....	9	Tallapoosa River, Ala.....	16-17
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Salkahatchie River, S. C.....	7	Tamiami Canal, Fla.....	12
Sallacoa Creek, Ga.....	15	Tamiami Canal outlets, Fla.....	12
Saluda River, S. C.....	7	Tar River, N. C.....	4
Sandy River, Va.....	4	Taylor Creek, Fla.....	11
		Tchoutacabouffa River, Miss.....	19

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Terrapin Creek, Ala.....	16	Waccamaw River, N. C.-S. C.....	5
Third Creek, N. C.....	5	Waccasassa River, Fla.....	13
Third Creek subwatershed No. 21 (IL Creek), N. C.....	5	Wakulla Spring, Fla.....	13
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Tibbee Creek, Miss.....	18	Warm Springs Run, Va.....	2
Tiger Creek, Ga.....	7	Wateree River, S. C.....	6
Tinker Creek, Va.....	3	Weekiwachee River, Fla.....	13
Tired Creek, Ga.....	13	Weekiwachee Spring, Fla.....	13
Tobesofkee Creek, Ga.....	9	Wekiva River, Fla.....	10
Tobler Creek. <u>See</u> Little Potato Creek.	14	Weogufka Creek, Ala.....	16
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Tomoka River, Fla.....	10	White Marsh, N. C.....	5
Toms Creek, Ga.....	8	Whitewater Creek, Ala.....	15
Towaliga River, Ga.....	9	Whitewater Creek, Ga.....	14
Toxaway River (head of Seneca River), S. C.	7	Whitewater River, S. C.....	7
Trent River, N. C.....	4	Wiccacon Creek, N. C.....	3
Tuckabum Creek, Ala.....	19	Wildcat Creek, Ga.....	8
Tugaloo River, Ga.-S. C.....	7	Williamson Swamp Creek, Ga.....	8
Turkey Creek, Ala.....	18	Willis River, Va.....	2
Turkey Creek (tributary to Indian River), Fla.....	10	Wilson Creek, N. C.....	6
Turkey Creek (tributary to South Prong St. Marys River), Fla.....	9	Withlacoochee River (tributary to Gulf of Mexico), Fla.....	13
Tuscolameta Creek, Miss.....	19	Withlacoochee River (tributary to Suwannee River), Fla.-Ga.....	13
Tuxachanie River, Miss.....	19	Withlacoochee-Hillsborough overflow, Fla.....	13
Twelvemile Creek, Fla. <u>See</u> Orange River.	12	Wolf River, Miss.....	19
Twelvemile Creek, S. C.....	8	Yadkin River, N. C.....	5
Tye River, Va.....	2	Yellow Creek, Ala.....	18
Tyger (Tiger) River, S. C.....	7	Yellow River, Fla.....	15
Uchee Creek, Ala.....	14	Yellow River, Ga.....	8
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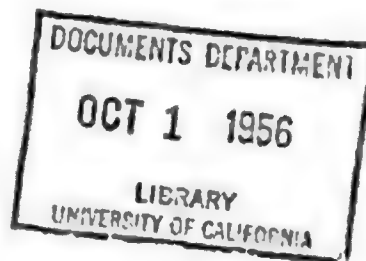
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GEOLOGICAL SURVEY CIRCULAR 383



INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955

PART 3.—OHIO RIVER BASIN



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 383

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 3.—OHIO RIVER BASIN

By P. R. Speer

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 3.—OHIO RIVER BASIN

By P. R. Speer

EXPLANATION

This index lists the streamflow and reservoir stations in the Ohio River basin for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indention and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indention in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 24 to 28.

2 INDEX, PART 3, OHIO RIVER BASIN
PART 3-A, OHIO RIVER BASIN EXCEPT CUMBERLAND AND TENNESSEE RIVER BASINS

Gaging station	Drainage area (sq mi)	Period of record
Allegheny River (head of Ohio River) at Larabee, Pa.....	530	1920-21; 1931-39; (1915-20*; 1921-25*; 1925-31)a/.
Allegheny River at Eldred, Pa.....	550	1939-
Great Valley Creek basin		
Great Valley Creek near Salamanca, N. Y.....	142	1950-
Allegheny River at Red House, N. Y.....	1,690	1903-
Kinzua Creek basin		
Kinzua Creek at Dewdrop, Pa.....	b/171	(1909-16)a/.
Allegheny River near Kinzua, Pa.....	2,179	1935-
Conewango Creek basin		
Conewango Creek at Waterboro, N. Y.....	290	1938-
Chautauqua Lake near Mayville, N. Y.....	189	1949-
Chadakoin River near Jamestown, N. Y.....	191	1904-5*.
Chadakoin River at Falconer, N. Y.....	194	1934-
Conewango Creek at Russell, Pa.....	816	1939-
Brokenstraw Creek basin		
Brokenstraw Creek at Youngsville, Pa.....	321	1919-21; 1931- ; (1909-19; 1921-31)a/.
Allegheny River at West Hickory, Pa.....	3,660	1941-
Tionesta Creek basin		
Tionesta Creek at Sheffield, Pa.....	128	1942-46.
South Branch Tionesta Creek at Barnes, Pa.....	85.3	1941-46.
Tionesta Creek at Lynch, Pa.....	233	1938-
Tionesta Creek at Mayburg, Pa.....	307	1941-46.
Tionesta Creek at Butler Bridge, Pa.....	420	1919-21; (1912-19*; 1921-23)a/.
Tionesta Creek at Nebraska, Pa.....	469	1931-40; (1909-11)c/; (1923-31)a/.
Tionesta Creek Reservoir at Tionesta Creek Dam, Pa.....	478	1940-
Tionesta Creek at Tionesta Creek Dam, Pa.....	479	1940-
Oil Creek basin		
Oil Creek at Rouseville, Pa.....	300	1932-
Oil Creek near Rouseville, Pa.....	315	1918-21; 1931-32; (1909-18; 1921-31)a/.
French Creek basin		
French Creek at Carters Corners (Kimmeytown), Pa.....	208	1919-20; 1932- ; (1910-18; 1920-32)a/.
French Creek at Venango, Pa.....	597	1938-46.
French Creek at Saegerstown, Pa.....	629	1921; 1931-39; (1921-31)a/.
Cussewago Creek near Meadville, Pa.....	90.2	1918-20; 1931-38; (1910-18; 1920-31)a/.
French Creek at Carlton, Pa.....	998	1919-20; (1908-19; 1920-25)a/.
French Creek at Utica, Pa.....	1,028	1932-
Sugar Creek at Wytstville, Pa.....	153	(1910-16)a/.
Sugar Creek at Sugarcreek, Pa.....	166	1932-
Allegheny River at Franklin, Pa.....	5,982	1918-21; 1931- ; (1915-18*; 1921-31)a/; (1905- *)d/.
Sandy Creek basin		
Sandy Creek at Sandy Lake, Pa.....	b/54	(1914-15; 1915-18*)a/.
Clarion River basin		
East Branch Clarion River:		
Sevenmile Run near Rasselas, Pa.....	7.84	1951-
East Branch Clarion River Reservoir at East Branch Clarion River Dam, Pa.....	72.4	1952-
East Branch Clarion River at East Branch Clarion River Dam, Pa.	73.2	1948-
West Branch Clarion River at Wilcox, Pa.....	63.0	1953-
Clarion River at Johnsonburg, Pa.....	204	1945-
Clarion River at Ridgway, Pa.....	303	1940-53.
Clarion River at Cooksburg, Pa.....	807	1938-
Clarion River near Clarion, Pa.....	b/930	1919-21; (1909-15; 1915-19*; 1921-23)a/.
Clarion River near Piney, Pa.....	951	1933- ; (1924-33)a/.
Clarion River at St. Petersburg, Pa.....	1,246	1941-53.
Allegheny River at Parkers Landing, Pa.....	7,671	1932- ; (1885- *)d/.
Redbank Creek basin		
Redbank Creek at Mayport, Pa.....	458	1938-40.
Redbank Creek at St. Charles, Pa.....	528	1918-21; 1931- ; (1909-16; 1917-18*; 1921-31)a/.
Allegheny River near Rimer, Pa.....	8,389	1939-45.
Mahoning Creek basin		
Mahoning Creek:		
Stump Creek at Cramer, Pa.....	22.1	1942-46.

* Gage heights or gage heights and discharge measurements only.

a/ In reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.
c/ In reports of Flood Commission of Pittsburgh.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

Gaging station	Drainage area (sq mi)	Period of record
<u>Allegheny River--continued</u>		
Mahoning Creek basin--continued		
Mahoning Creek at Punxsutawney, Pa.....	158	1938-
Little Mahoning Creek at McCormick, Pa.....	87.4	1939-
Mahoning Creek near Dayton, Pa.....	321	1920-21; 1931-40; (1910-20*; 1921-31)a/.
Mahoning Creek Reservoir at Mahoning Creek Dam, Pa.....	340	1941-
Mahoning Creek at Mahoning Creek Dam, Pa.....	344	1938-
Allegheny River at Kittanning, Pa.....	8,973	1904-13; 1918-21; 1934-; (1913-18; 1921-28)a/.
<u>Crooked Creek basin</u>		
Crooked Creek at Creekside, Pa.....	67.6	1942-46.
South Branch Plum Creek at Willet, Pa.....	30.0	1941-46.
Crooked Creek at Idaho, Pa.....	191	1938-
Crooked Creek Reservoir at Crooked Creek Dam, Pa.....	277	1940-
Crooked Creek at Crooked Creek Dam (at Hileman's Farm and near Ford City), Pa.....	278	1918-21; 1931-; (1909-18; 1921-31)a/.
<u>Kiskiminetas River basin</u>		
Stony Creek(head of Kiskiminetas River) at Hollsopple, Pa.	244	1937-40.
Stony Creek at Ferndale, Pa.....	451	1938-
Stony Creek at Johnstown, Pa.....	467	1918-21; 1931-36; (1914-18; 1921-31)a/.
Little Conemaugh River at East Conemaugh, Pa.....	183	1939-
Conemaugh River (continuation of Stony Creek)at Seward, Pa.	715	1938-
Blacklick Creek at Josephine, Pa.....	192	1952-
Two Lick Creek at Graceton, Pa.....	171	1951-
Blacklick Creek at Blacklick, Pa.....	390	1904-13; 1918-21; 1931-51; (1913-18; 1921-31)a/.
Conemaugh River Reservoir at Conemaugh River Dam, Pa.....	1,351	1951-
Conemaugh River at Tunnelton, Pa.....	1,358	1939-
Loyalhanna Creek:		
McGinnis Run near Laughlintown, Pa.....	13.0	1944-46.
Loyalhanna Creek at Kingston, Pa.....	172	1939-
Loyalhanna Creek at New Alexandria, Pa.....	265	1919-21; 1931-40; (1921-23; 1925-31)a/.
Loyalhanna Creek near New Alexandria, Pa.....	b/270	(1910-13)a/.
Loyalhanna Creek Reservoir at Loyalhanna Creek Dam, Pa..	290	1942-
Loyalhanna Creek at Loyalhanna Creek Dam, Pa.....	292	1940-
Kiskiminetas River at Avonmore, Pa.....	1,723	1907-13; 1918-21; 1931-37; (1913-18; 1921-31)a/.
Kiskiminetas River at Salina, Pa.....	1,743	1904-5*.
Kiskiminetas River at Vandergrift, Pa.....	1,825	1937-; (1920-32*)a/.
<u>Buffalo Creek basin</u>		
Buffalo Creek near Freeport, Pa.....	137	1940-
Allegheny River at Natrona, Pa.....	b/11,410	1938-
<u>Monongshela River basin</u>		
Tygart River (head of Monongshela River) near Dailey, W.Va.	187	1915-
Tygart River at Elkins, W. Va.....	272	1944-
Tygart River at Bellington, W. Va.....	408	1907-
Middle Fork at Midvale, W. Va.....	122	1915-42.
Middle Fork at Audra, W. Va.....	149	1942-
Buckhannon River:		
Sand Run near Buckhannon, W. Va.....	14.5	1946-52††; 1953-
Buckhannon River at Buckhannon, W. Va.....	217	1946-48* ††.
Buckhannon River at Hall, W. Va.....	277	1907-9*; 1915-
Big Run at Volga, W. Va.....	6.19	1941-45.
Tygart River at Philippi, W. Va.....	916	1940-
Tygart River at Arden, W. Va.....	945	1936-37; 1938-40.
Tygart Reservoir near Grafton, W. Va.....	1,184	1939- †
Tygart River at Tygart Dam, near Grafton, W. Va.....	1,184	1938-
Tygart River at Fetterman, W. Va.....	1,304	1907-39.
Tygart River at Colfax, W. Va.....	1,366	1939-
West Fork River:		
Skin Creek near Brownsville (Weston), W. Va.....	25.7	1945-
West Fork River at Brownsville, W. Va.....	102	1946-
West Fork River at Butcherville, W. Va.....	181	1915-
West Fork River at Clarksburg, W. Va.....	384	1923-
Elk Creek at Quiet Dell, W. Va.....	84.6	1943-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

a/ In reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

b/ Approximately.

INDEX, PART 3, OHIO RIVER BASIN

Gaging station	Drainage area (sq mi)	Period of record
Allegheny River--continued		
Monongahela River basin--continued		
Tygart River--continued		
West Fork River--continued		
Tennile Creek:		
Salem Fork:		
Jacob Run:		
Salem Fork subwatershed No. 11A (Varner Hollow Run) near Salem, W. Va.....	-	1955-
Salem Fork at Salem, W. Va.....	8.32	1951-
West Fork River at Enterprise, W. Va.....	759	1907-16; 1916-18*; 1932-
Monongahela River:		
Buffalo Creek at Barrackville, W. Va.....	115	1907-8; 1915-24; 1932-
Monongahela River at Lock 15, Hoult, W. Va.....	2,388	1915-26; 1938-
Deckers Creek at Morgantown, W. Va.....	63.2	1914-15*; 1946-
Monongahela River at Lock 8, at Point Marion, Pa.....	2,720	1929-55.
Dry Fork (head of Cheat River):		
Gandy Creek at Horton, W. Va.....	36	1924-26.
Laurel Fork at Wymer, W. Va.....	b/44	1924-26.
Gladly Fork at Evenwood, W. Va.....	41	1924-26.
Dry Fork at Hendricks, W. Va.....	345	1940-
Blackwater River above Beaver Creek, near Davis, W. Va.	58.7	1929-32.
Blackwater River at Davis, W. Va.....	86.2	1921-
North Fork Blackwater River at Douglas, W. Va.....	b/17.9	1921-31.
Blackwater River at Hendricks, W. Va.....	140	1911-14; 1914-18*.
Shavers Fork at Cheat Bridge, W. Va.....	57.5	1922-26.
Shavers Fork at Bemis, W. Va.....	115	1922-25.
Shavers Fork at Flint, W. Va.....	124	1924-32.
Shavers Fork at Parsons, W. Va.....	214	1910-26; 1940-
Cheat River near Parsons, W. Va.....	718	1913-
Cheat River at Rowlesburg, W. Va.....	972	1912-23*; 1923-
Big Sandy Creek at Rockville, W. Va.....	200	1909-18; 1921-
Cheat River near Pisgah, W. Va.....	1,354	1927-
Cheat River near Morgantown, W. Va.....	1,380	1899-1900; 1902-5; 1908-18; 1922-25.
Dunkard Creek at Shannopin (Bobtown), Pa.....	229	1940- ; (1909-19*)a/
Monongahela River at Greensboro, Pa.....	4,407	1939-
South Fork Tennile Creek at Jefferson, Pa.....	180	1931-
South Fork Tennile Creek at Pollacks Mill, Pa.....	190	(1915-31*).
Dunlap Creek at Allison, Pa.....	33.1	1942-51.
Redstone Creek at Waltersburg, Pa.....	73.7	1942-
Monongahela River at Charleroi, Pa.....	5,213	1886-1905*; 1933-
Youghiogheny River near Oakland, Md.....	134	1941-
Deep Creek Reservoir near Oakland, Md.....	64.7	1925-†
Youghiogheny River at Friendsville, Md.....	295	1898-1904; 1940- ; (1922-26* 1926-31)a/
Youghiogheny River Reservoir at Youghiogheny River Dam, Pa.	434	1943-
Youghiogheny River at Youghiogheny River Dam (Confluence), Pa.	436	1904-10; 1911-13*; 1940- ; (1914-22*)a/
Casselman River at Grantsville, Md.....	62.5	1947-
Big Piney Run near Salisbury, Pa.....	24.5	1932-
Casselman River at Markleton, Pa.....	382	1913*; 1920-21; 1931- ; (1913-20*; 1921-31)a/
Casselman River at Confluence, Pa.....	b/450	1904-13.
Laurel Hill Creek at Ursina, Pa.....	121	1913 *; 1918-1921; 1931; (1913-18*; 1921-31)a/
Laurel Hill Creek at Confluence, Pa.....	b/126	1904-13.
Youghiogheny River below Confluence, Pa.....	1,029	1940-
Youghiogheny River at Chiopyle, Pa.....	1,065	(1927-50††)e/
Indian Creek at Westmoreland County, Pa.....	-	1892-93.
Youghiogheny River at Connellsville, Pa.....	1,326	1918-21; 1931- ; (1908-18; 1921-31)a/
Jacobs Creek:		
Green Lick Run at Green Lick Reservoir, Pa.....	3.07	1941-
Youghiogheny River at Sutersville, Pa.....	1,715	1931-36; 1938- ; (1915-20*; 1920-29)a/
Turtle Creek:		
Abers Creek near Murrysburg, Pa.....	4.39	1948-
Turtle Creek at Trafford, Pa.....	55.9	1920-21; 1931-53; (1914*; 1916-20*; 1921-31)a/.
Monongahela River at Braddock, Pa.....	7,337	1939-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Unpublished.

a/ In reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

b/ Approximately.

e/ Furnished by West Penn Power Co.

Gaging station	Drainage area (sq mi)	Period of record
Ohio River:		
Chartiers Creek basin		
Chartiers Creek at Carnegie, Pa.....	257	1919-21; 1932-33; 1940- ; (1915-19*; 1921-32)a/
Ohio River at Sewickley, Pa.....	b/19,500	1933-
Beaver River basin		
Mahoning River (head of Beaver River) at Alliance, Ohio...	87.9	1941-
Beech Creek near Bolton, Ohio.....	18.8	1943-51.
Beech Creek near Lexington, Ohio.....	32.4	1941-43.
Deer Creek at Limaville, Ohio.....	31.9	1941-51.
Mahoning River near Deerfield, Ohio.....	175	1923-31.
Willow Creek near Deerfield, Ohio.....	11.7	1941-43.
Mill Creek near Berlin Center, Ohio.....	19.7	1941-
Berlin Reservoir near Berlin Center, Ohio.....	249	1942- †
Mahoning River below Berlin Dam, near Berlin Center, Ohio.	249	1930-
Milton Reservoir at Pricetown, Ohio.....	276	1941- †
Mahoning River at Pricetown, Ohio.....	276	1929-
Kale Creek near Pricetown, Ohio.....	20.9	1941-
West Branch Mahoning River near Newton Falls, Ohio.....	97.8	1926-
Eagle Creek at Phalanx Station, Ohio.....	97.0	1926-34; 1938-
Duck Creek at Leavittsburg, Ohio.....	35.2	1941-48.
Mahoning River at Leavittsburg, Ohio.....	580	1941-
Mahoning River at Warren, Ohio.....	599	1924-35.
Mosquito Creek Reservoir near Cortland, Ohio.....	97.4	1943- †
Mosquito Creek below Mosquito Creek Dam, near Cortland, Ohio.....	97.4	1926-29; 1943-
Mosquito Creek at Niles, Ohio.....	139	1929-51.
Meander Creek at Ohlstown, Ohio.....	77.2	1926-29.
Meander Creek Reservoir at Mineral Ridge, Ohio.....	84.9	1941- †
Meander Creek at Mineral Ridge, Ohio.....	84.9	1929-
Mahoning River at Youngstown, Ohio.....	595	1921-
Mill Creek at Youngstown, Ohio.....	68.4	1943-
Mahoning River at Youngstown, (0.2 mile below Dry Run) Ohio	958	1903-6*.
Mahoning River at Lowellville, Ohio.....	1,076	1943-
Shenango River near Turnersville, Pa.....	b/152	1918-21; (1912-18; 1921-22)a/
Pymatuning Reservoir at Pymatuning Dam, Pa.....	158	1933-
Sugar Run at Pymatuning Dam, Pa.....	9.34	1934-55.
Shenango River at Pymatuning Dam, Pa.....	167	1934-
Shenango River near Jamestown, Pa.....	181	1920-21; 1931-34; (1919-20*; 1921-31)a/
Little Shenango River at Greenville, Pa.....	104	1919-21; 1931- ; (1914-19; 1921-23; 1925-31)a/
Pymatuning Creek near Orangeville, Pa.....	169	1918-21; 1931- ; (1914-18; 1921-23; 1925-31)a/
Shenango River at Sharpsville, Pa.....	588	1938-
Shenango River at Sharon, Pa.....	608	1918-21; 1931-38; (1909-18; 1921-31)a/
Shenango River at New Castle, Pa.....	792	1918-21; 1931-34; (1910-18; 1921-31)a/
Neshannock Creek at East Brook, Pa.....	228	1919-21; (1914-19*; 1921-23)a/
Beaver River at Wampum (Newport), Pa.....	2,235	1914; 1932- ; (1914-18)a/
Connoquenessing Creek at Hazen, Pa.....	356	1919-21; 1931- ; (1915-19*; 1921-31)a/
Slippery Rock Creek at Wurtzburg, Pa.....	398	1918-20; 1931- ; (1912-18; 1920-31)a/
Connoquenessing Creek near Ellwood City, Pa.....	b/829	1914.
Beaver River at Beaver Falls, Pa.....	3,106	1935- †; (1908-*)d/
Raccoon Creek basin		
Raccoon Creek at Moffatts Mill, Pa.....	178	1941- ; (1915-32*)a/
Ohio River at Montgomery Island Dam, Pa.....	b/22,960	1941-51*.
Little Beaver Creek basin		
Middle Fork Little Beaver Creek:		
Lisbon Creek at Lisbon, Ohio.....	6.08	1946-
Little Beaver Creek near East Liverpool, Ohio.....	505	1915-
Yellow Creek basin		
Yellow Creek near Hammondsville, Ohio.....	148	1940-
Yellow Creek at Hammondsville, Ohio.....	169	1915-35.
Cross Creek basin		
Cross Creek near Mingo Junction, Ohio.....	129	1903*.

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ In reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
Short Creek basin		
Short Creek near Dillonvale, Ohio.....	124	1941-
Wheeling Creek basin		
Wheeling Creek at Elm Grove, W. Va.....	282	1940-
Ohio River at Wheeling W. Va.....	b/24,800	1905-6.
McMahon River basin		
McMahon River at Steel, Ohio.....	82	1903*
Ohio River at Bellaire, Ohio.....	b/25,170	1939-41†; 1942-
Captina Creek basin		
Captina Creek at Armstrongs Mills, Ohio.....	135	1926-35.
Middle Island Creek basin:		
Middle Island Creek at Little, W. Va.....	458	1915-16; 1917-22*
Ohio River at St. Marys, W. Va.....	b/26,850	1938-39‡; 1940-
Little Muskingum River basin		
Little Muskingum River at Fay, Ohio.....	259	1915-22*; 1925-35.
Muskingum River basin		
Tuscarawas River (head of Muskingum River) at Clinton, Ohio...	165	1926-
Tuscarawas River at Crystal Spring, Ohio.....	430	1921-29.
Tuscarawas River at Massillon, Ohio.....	526	1938-
Sandy Creek at Waynesburg, Ohio.....	254	1938-
Middle Branch Nimishillen Creek at Canton, Ohio.....	44.2	1941-
Nimishillen Creek at North Industry, Ohio.....	175	1921-
Sandy Creek at Sandyville, Ohio.....	481	1923-47
Bolivar Reservoir at Bolivar, Ohio.....	502	1939- †
Conotton Creek:		
Leesville Reservoir near Leesville, Ohio.....	47.9	1939- †
McGuire Creek below Leesville Dam, near Leesville, Ohio...	47.9	1938-
Atwood Reservoir near New Cumberland, Ohio.....	70.3	1939- †
Indian Fork below Atwood Dam, near New Cumberland, Ohio...	70.3	1938-
Dover Reservoir near Dover, Ohio.....	1,397	1939- †
Tuscarawas River below Dover Dam, near Dover, Ohio.....	1,398	1923-
Sugar Creek above Beach City Dam, at Beach City, Ohio.....	160	1945-
Beach City Reservoir near Beach City, Ohio.....	300	1939- †
Sugar Creek below Beach City Dam, near Beach City, Ohio.....	300	1938-
Sugar Creek at Strasburg, Ohio.....	310	1931-33; 1934-39.
Beaver Dam Creek:		
Home Creek near New Philadelphia, Ohio.....	1.64	1936-
Piedmont Reservoir at Piedmont, Ohio.....	84	1939- †
Stillwater Creek at Piedmont, Ohio.....	122	1939-
Clendenen Reservoir at Tippecanoe, Ohio.....	69.5	1939- †
Stillwater Creek at Tippecanoe, Ohio.....	281	1939-
Stillwater Creek at Uhrichsville, Ohio.....	367	1922-
Tappan Reservoir at Tappan, Ohio.....	71.0	1939- †
Little Stillwater Creek below Tappan Dam, at Tappan, Ohio.	71.0	1938-
Tuscarawas River at Newcomerstown, Ohio.....	2,436	1921-
Charles Mill Reservoir near Mifflin, Ohio.....	216	1939- †
Black Fork below Charles Mill Dam, near Mifflin, Ohio.....	218	1938-
Rocky Fork:		
Touby Run at Mansfield, Ohio.....	5.17	1946-
Rocky Fork near Mansfield, Ohio.....	38.3	1925-32.
Black Fork at Loudonville, Ohio.....	342	1931-
Clear Fork at Butler, Ohio.....	143	1945-
Clear Fork at Newville, Ohio.....	175	1934-39.
Pleasant Hill Reservoir near Perrysville, Ohio.....	199	1939- †.
Clear Fork below Pleasant Hill Dam, near Perrysville, Ohio	199	1938-
Jerome Fork at Jeromeville, Ohio.....	120	1925-49.
Mohicanville Reservoir near Mohicanville, Ohio.....	269	1939- †
Lake Fork below Mohicanville Dam, near Mohicanville, Ohio.	269	1938-
Lake Fork near Loudonville, Ohio.....	342	1931-32; 1934-39.
Mohican River at Greer, Ohio.....	942	1921-
Kokosing River at Mount Vernon, Ohio.....	200	1953-
Kokosing River at Millwood, Ohio.....	454	1938-
Kokosing River near Millwood, Ohio.....	472	1921-39.
Mohawk Reservoir near Nellie, Ohio.....	1,501	1939- †
Walhonding River below Mohawk Dam, at Nellie, Ohio.....	1,502	1910-13*; 1921-
Killbuck Creek at Killbuck, Ohio.....	466	1930-
Killbuck Creek at Layland, Ohio.....	507	1923-30.
Mill Creek near Coshocton, Ohio.....	27.5	1936-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

b/ Approximately.

PART 3-A, OHIO RIVER BASIN EXCEPT CUMBERLAND AND TENNESSEE RIVER BASINS

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<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
Muskingum River basin--continued		
Muskingum River near Coshocton, Ohio.....	4,847	1936-
Senecaville Reservoir near Senecaville, Ohio.....	121	1939- †
Seneca Fork below Senecaville Dam, near Senecaville, Ohio.....	121	1938-
Wills Creek at Cambridge, Ohio.....	406	1926-28; 1937-
Wills Creek at Birds Run, Ohio.....	730	1928-39.
Wills Creek Reservoir near Wills Creek, Ohio.....	844	1939- †
Wills Creek below Wills Creek Dam, at Wills Creek, Ohio...	845	1938-
Wakatomika Creek near Frazzysburg, Ohio.....	140	1936-
Muskingum River at Dresden, Ohio.....	5,982	1921-
South Fork Licking River near Hebron, Ohio.....	133	1939-48.
Raccoon Creek at Granville, Ohio.....	83.0	1939-48.
North Fork Licking River at Utica, Ohio.....	114	1939-48.
Licking River near Newark, Ohio.....	536	1939-
Licking River at Toboso, Ohio.....	672	1902-6; 1921-
Licking River at Dillon, Ohio.....	754	1939-
Muskingum River at Zanesville, Ohio.....	6,844	1905-12*; 1939-55.
Moxahala Creek:		
Jonathan Creek at Powells, Ohio.....	189	1902-3*.
Muskingum River at Frazier, Ohio.....	7,160	1915-20.
Salt Creek near Chandlerville, Ohio.....	75.6	1935-47.
Muskingum River at McConnelville, Ohio.....	7,411	1921-
Muskingum River at Beverly, Ohio.....	7,700	1915-21.
Ohio River at Parkersburg, W. Va.....	b/35,600	1940-
Little Kanawha River basin		
Little Kanawha River near Burnsville, W. Va.....	155	1938-
Little Kanawha River at Glenville, W. Va.....	386	1915-22*; 1928-
Leading Creek near Glenville, W. Va.....	144	1938-51.
Steer Creek near Grantsville, W. Va.....	166	1938-
Little Kanawha River at Grantsville, W. Va.....	913	1928-
West Fork Little Kanawha River at Rocksedale, W. Va.....	205	1928-31; 1938-
Reedy Creek near Reedy, W. Va.....	79.4	1951-
Little Kanawha River at Palestine, W. Va.....	1,515	1915-22*; 1939-41*; 1942-
South Fork Hughes River at Macfarlan, W. Va.....	210	1915-22*; 1938-51.
Hughes River at Cisko, W. Va.....	452	1915-22*; 1929-31; 1939-
Hocking River basin		
Hocking River near Lancaster, Ohio.....	92.8	1923-32.
Clear Creek near Rockbridge, Ohio.....	87.7	1939-
Hocking River at Enterprise, Ohio.....	460	1931-
Clear Fork near Logan, Ohio.....	14.8	1942-47.
Sunday Creek:		
East Branch Sunday Creek:		
Tom Jenkins (Burr Oak) Reservoir at Burr Oak, Ohio.....	32.8	1952- †
Sunday Creek at Gloucester, Ohio.....	104	1951-
Hocking River at Athens, Ohio.....	944	1915-
Ohio River at Pomeroy, Ohio.....	b/40,500	1940-
Kanawha River Basin		
South Fork New River (head of Kanawha River) at Bowie, N. C.	129	1925-26*.
South Fork New River near Jefferson, N. C.....	207	1924-26; 1927-28†; 1928-
South Fork New River near Crumpler (at New River) N. C.....	325	1900-01*; 1908-16.
North Fork New River near Warrensville, N. C.....	113	1924-26.
North Fork New River at (near) Crumpler (at Weaverford), N.C.	277	1900-01*; 1908-16; 1928-
New River near Baywood, Va.....	b/1,000	1928-30.
New River near Oldtown, Va.....	-	1900-1903*.
New River near Galax, Va.....	1,131	1929-
New River near Grayson, Va.....	1,160	1908-12.
Chestnut Creek at Galax, Va.....	b/39	1944-
New River at Ivanhoe, Va.....	1,340	1929-
Cripple Creek near Ivanhoe, Va.....	148	1930-34.
Reed Creek:		
South Fork Reed Creek:		
Neff-Litz Spring near Rural Retreat, Va.....	-	1947- **
Reed Creek at Grahams Forge, Va.....	247	1908-16; 1927-
Big Reed Island Creek near Allisonia, Va.....	278	1908-16; 1939-
New River at Allisonia, Va.....	2,202	1929-
Peak Creek at Pulaski, Va.....	60.9	1927-33; 1951-
Claytor Reservoir near Radford, Va.....	-	1939- *
Little River near Copper Valley, Va.....	239	1908-16.
Little River at Grayson, Va.....	300	1928-
Little River Reservoir near Radford, Va.....	-	1943- *††

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

* Fragmentary record.

†† Unpublished.

** Discharge measurements only.

*** Monthly figures of change in contents.

b/ Approximately.

INDEX, PART 3, OHIO RIVER BASIN

<u>Gaging station</u>	<u>Drainage area</u> (sq mi)	<u>Period of record</u>
Ohio River--continued		
Kanawha River basin--continued		
New River at Radford, Va.....	2,748	1898-1915; 1939-
New River at Eggleston, Va.....	2,941	1914-
Walker Creek:		
Wabash Creek:		
Wabash Spring near Poplar Hill, Va.....	-	1949-51*†.
Walker Creek at Staffordsville, Va.....	277	1908-16.
Walker Creek at Bane, Va.....	305	1938-
Francis Spring near Bane, Va.....	-	1951- ‡‡
New River at Narrows, Va.....	-	(1914-26; 1938-50*) ††.
Wolf Creek near Burkes Garden, Va.....	b/36	1927-28.
West Fork Cove Creek near Bluefield, Va.....	b/5.5	1929-32.
Wolf Creek near Narrows, Va.....	223	1908-16; 1938-
New River at Rich Creek, Va.....	-	1939-50* ††
New River at Glenlyn, Va.....	3,768	1927-
Rich Creek near Peterstown, W. Va.....	50.6	1941-50.
Indian Creek at Indian Mills, W. Va.....	189	1941-50.
Bluestone River near Spanishburg, W. Va.....	199	1944-52.
Camp Creek near Camp Creek, W. Va.....	32	1946-
Bluestone River near Pipestem, W. Va.....	363	1950-
Bluestone River at Lilly, W. Va.....	438	1908-16; 1929-48.
New River at Bluestone Dam, (near Hinton) W. Va.....	4,604	1923-
Greenbrier River at Durbin, W. Va.....	134	1943-
Story Creek:		
Dry Creek:		
McLaughlin Spring at Edray, W. Va.....	-	1945-
Greenbrier River at Marlinton, W. Va.....	408	1908-16.
Knapp Creek at Marlinton, W. Va.....	108	1945-
Greenbrier River at Buckeye, W. Va.....	540	1929-
Second Creek near Second Creek, W. Va.....	80.8	1945-
Greenbrier River at Alderson, W. Va.....	1,357	1895-
Greenbrier River at Hilldale, W. Va.....	1,625	1936-
New River at Hinton, W. Va.....	6,257	1936-
Piney Creek at Raleigh, W. Va.....	52.2	1951-
New River at Caperton, W. Va.....	6,826	1928-
New River at Fayette, W. Va.....	6,850	1895-1901; 1902-4; 1908-16.
Gauley River:		
Williams River at Dyer, W. Va.....	128	1929-
Gauley River at Camden on Gauley, (Allingdale) W. Va.....	236	1908-16; 1929-
Cranberry River near Richwood, W. Va.....	81.2	1944-51.
Cranberry River at Woodbine, W. Va.....	96.8	1929-31.
Cherry River at Richwood, W. Va.....	85.0	1908-16.
Cherry River at Fenwick, W. Va.....	150	1929-
Gauley River near Summersville, W. Va.....	680	1908-16; 1928-
Meadow River at Nallen, (near Russellville) W. Va.....	287	1908-16; 1928-
Sewell Creek:		
Little Sewell Creek at East Rainelle, W. Va.....	-	1949-52 ††
Gauley River near Leander, W. Va.....	b/1,230	1925-29
Peters Creek near Lockwood, W. Va.....	40.6	1945-
Gauley River above Belva, W. Va.....	1,315	1928-
Gauley River at Belva, W. Va.....	1,402	1908-16.
Kanawha River at Kanawha Falls, W. Va.....	8,367	1877-
Kanawha River at Lock 2, Montgomery, W. Va.....	8,470	1888-1922; 1927-28.
Elk River at Webster Springs, W. Va.....	168	1908-16.
Elk River below Back Fork, at Webster Springs, W. Va.....	242	1929-34.
Elk River at Centralia, W. Va.....	281	1934-
Elk River at Sutton, W. Va.....	543	1939-
Elk River at Cassaway, W. Va.....	578	1908-16.
Birch River near Birch River, W. Va.....	48.3	1945-48.
Elk River at Queen Shoals, W. Va.....	1,145	1928-
Elk River at Clendenin, W. Va.....	1,290	1908-16.
Kanawha River at Charleston, W. Va.....	10,419	1939-
Coal River at Ashford (Brushton), W. Va.....	393	1908-16; 1930-
Little Coal River at Danville (Madison), W. Va.....	270	1930-
Little Coal River at McCorkle, W. Va.....	375	1915-17; 1917-22*.
Coal River at Fuqua, W. Va.....	849	1911-16.
Coal River at Tornado, W. Va.....	857	1908-11; 1928-31.
Pocatalico River at Sissonville, W. Va.....	238	1908-16; 1930-31; 1937-
Ohio River at Point Pleasant, W. Va.....	b/52,760	1940-
Raccoon Creek basin:		
Raccoon Creek at Adamsville, Ohio.....	587	1915-35; 1938-

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†† Unpublished.

‡‡ Discharge measurements only.

b/ Approximately.

<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
<u>Guyandot River basin</u>		
Guyandot River at Baileysville, W. Va.....	354	1929-31.
Guyandot River at Man, W. Va.....	762	1928-
Guyandot River at Wilber, W. Va.....	791	1915-22*.
Guyandot River at Branchland, W. Va.....	1,226	1915-22*; 1928-
Mud River near Milton, W. Va.....	291	1938-
Mud River at Yates, W. Va.....	b/318	1915-17; 1917-22*.
<u>Symes Creek basin</u>		
Symes Creek at Getaway, Ohio.....	333	1938-47.
Ohio River at Huntington, W. Va.....	b/55,900	1934-
<u>Fourpole Creek basin</u>		
Fourpole Creek at Huntington, W. Va.....	20.9	1940-48.
<u>Twelvepole Creek basin</u>		
Twelvepole Creek at Wayne, W. Va.....	291	1915-17; 1917-22*; 1928-31; 1946-
<u>Big Sandy River basin</u>		
Levisa Fork (head of Big Sandy River) near Grundy, Va.....	235	1941-
Levisa Fork at Fishtrap, Ky.....	386	1938-
Russell Fork at Haysi, Va.....	286	1926-
Pound River near Haysi, Va.....	212	1926
Levisa Fork at Pikeville, Ky.....	1,237	1937- ; (1907- *)d/
Johns Creek near Meta, Ky.....	55.7	1941-
Johns Creek near Prestonsburg, Ky.....	197	1938-40; (1940-50*) ††.
Dewey Reservoir near Van Lear, Ky.....	207	1950- †
Johns Creek near Van Lear, Ky.....	208	1939-
Paint Creek at Staffordsville, Ky.....	101	1950-
Levisa Fork at Paintsville (Thelma), Ky.....	2,143	1915-16; 1916-20*; 1928-
Tug Fork at Litwar, W. Va.....	502	1930-
Panther Creek near Panther, W. Va.....	30.8	1946-
Tug Fork near Kermit, W. Va.....	1,185	1934-
Tug Fork at Kermit, W. Va.....	b/1,240	1915-17; 1917-20*; 1928-34.
Big Sandy River at Louisa, Ky.....	b/3,870	1938-47; 1948-
Blaine Creek at Yatesville, Ky.....	217	1915-18; 1918-21*; 1938-
Ohio River at Ashland, Ky.....	b/60,750	1938-39*; 1939-52; 1952- †
<u>Little Sandy River basin</u>		
Little Sandy River near Grayson, Ky.....	398	1938-
<u>Tygarts Creek basin</u>		
Tygarts Creek near Greenup, Ky.....	241	1940-
<u>Scioto River basin</u>		
Scioto River at LaRue, Ohio.....	255	1926-35; 1938-51.
Little Scioto River above Marion, Ohio.....	70.0	1938-
Little Scioto River at Sewage Treatment Works, near Marion, Ohio.....	80.7	1925-35; 1938-39.
Little Scioto River near Marion, Ohio.....	89.1	1923-25.
Scioto River near (at) Prospect, Ohio.....	571	1925-32; 1939-
Mill Creek near Bellepoint, Ohio.....	181	1942-
O'Shaughnessy Reservoir near Dublin, Ohio.....	987	1940- †
Scioto River below O'Shaughnessy Dam, near Dublin, Ohio...	986	1921-
Origgs Reservoir near Columbus, Ohio.....	1,052	1940- †
Scioto River near (at) Columbus, Ohio.....	1,075	1898-1900; 1901*; 1903*; 1904-6.
Olentangy River near New Winchester, Ohio.....	49.7	1946-49.
Olentangy River at Claridon, Ohio.....	156	1946-
Whetstone Creek near Shawtown, Ohio.....	51.7	1946-55.
Shaw Creek at Shawtown, Ohio.....	25.2	1946-55.
Whetstone Creek at Ashley, Ohio.....	98.5	1954-
Delaware Reservoir near Delaware, Ohio.....	381	1951- †
Olentangy River near Delaware, Ohio.....	387	1923-34; 1938-
Olentangy River at Delaware, Ohio.....	415	1921-23.
Olentangy River at Stratford, Ohio.....	438	1934-35; 1938-
Olentangy River at Columbus, Ohio.....	532	1898*; 1899-1901; 1901*; 1903*; 1904-6.
Scioto River at Columbus, Ohio.....	1,624	1921-
Scioto Big Run at Briggsdale, Ohio.....	12.4	1946-
Big Walnut Creek at Central College, Ohio.....	191	1938-
Alum Creek at Columbus, Ohio.....	190	1923-35; 1938-
Big Walnut Creek at Rees, Ohio.....	544	1921-35; 1938-
Scioto River near Circleville, Ohio.....	2,635	1939-
Darby Creek at Darbyville, Ohio.....	533	1921-35; 1938-
Deer Creek at Williamsport, Ohio.....	331	1926-35; 1938-

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† Monthly figures of discharge or contents only.

* Fragmentary record.

†† Unpublished.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

INDEX, PART 3, OHIO RIVER BASIN

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
Scioto River basin--continued		
Scioto River at Chillicothe, Ohio.....	3,847	1913-14*; 1921-
Paint Creek near Greenfield, Ohio.....	251	1926-35; 1939-
Rocky Fork near Barretts Mills, Ohio.....	141	1939-
Paint Creek at Bainbridge, Ohio.....	773	1921-23.
Paint Creek near Bainbridge, Ohio.....	779	1938-40.
Paint Creek near Bourneville, Ohio.....	808	1923-37; 1939-
Scioto River at Higby, Ohio.....	5,129	1930-
Salt Creek at Tarlton, Ohio.....	10.6	1946-
Pike Run:		
Tar Hollow Creek at Tar Hollow State Park, Ohio.....	1.50	1946-
Salt Creek near Londonderry, Ohio.....	286	1938-50.
Little Salt Creek near Jackson, Ohio.....	76.5	1925-32.
Scioto River at Waverly, Ohio.....	5,730	1916-17; 1917-20*.
Ohio Brush Creek basin		
Ohio Brush Creek near West Union, Ohio.....	388	1926-35; 1940-
Ohio River near Maysville, Ky.....	b/70,130	1939-40*; 1940-
Whiteoak Creek basin		
Whiteoak Creek near Georgetown, Ohio.....	221	1923-35; 1939-
Little Miami River basin		
Little Miami River near Selma, Ohio.....	50.6	1952-
North Fork Little Miami River near Pitchin, Ohio.....	29.1	1952-
Little Miami River near Oldtown, Ohio.....	129	1952-
North Fork Massie Creek at Cedarville, Ohio.....	25.6	1954-
South Fork Massie Creek near Cedarville, Ohio.....	20.2	1954-
Massie Creek at Wilberforce, Ohio.....	64.3	1952-
Little Miami River at Spring Valley, Ohio.....	361	1925-35; 1939-51..
Little Miami River near Fort Ancient, Ohio.....	677	1938-51.
Todd Fork near Wilmington, Ohio.....	23.2	1923; 1942-44.
Cowan Creek near Wilmington, Ohio.....	31.9	1942-50.
Todd Fork near Roachester, Ohio.....	234	1952-
Little Miami River near Morrow, Ohio.....	951	1903*.
Little Miami River at Loveland, Ohio.....	-	1906*.
Little Miami River at Milford, Ohio.....	1,195	1915-17; 1917-20*; 1925-36; 1938-
East Fork Little Miami River near Dodsonville, Ohio.....	92.7	1947-48.
East Fork Little Miami River at Williamsburg, Ohio.....	238	1949-53.
East Fork Little Miami River near Bantam, Ohio.....	331	1948-53.
East Fork Little Miami River at Perintown, Ohio.....	477	1915-17; 1917-20*; 1925-
Little Miami River at Plainville, Ohio.....	1,680	1914-15; 1918-20*.
Licking River basin		
Licking River near Salyersville, Ky.....	140	1938-
Licking River at Yale, Ky.....	709	1938-42.
Licking River at Farmers, Ky.....	826	1918-20*; 1928-31; 1936-37; 1938- ; (1904- *)d/
Triplett Creek at Morehead, Ky.....	47.5	1941-
Licking River at Blue Lick Springs, Ky.....	b/1,740	1938-
North Fork Licking River near Lewisburg, Ky.....	118	1946-
Licking River at McKinneysburg, Ky.....	b/2,280	1924-26; 1938-
Stoner Creek (head of South Fork Licking River) at Paris, Ky.....	238	1953-
South Fork Licking River at Cynthiana, Ky.....	615	1938- ; (1917- *)d/
South Fork Licking River at Hayes (Falmouth), Ky.....	915	1915-16; 1916-20*; 1928-31
Licking River at Catawba (Falmouth), Ky.....	b/3,250	1914-17; 1917-20*; 1926-
Licking River at Butler, Ky.....	b/3,330	1938-42.
Licking River at Morning View, Ky.....	b/3,520	1915-16.
Ohio River at Cincinnati, Ohio.....	b/76,580	1936-39*; 1939-; (1858- *)f/
Mill Creek basin		
Mill Creek at Reading, Ohio.....	73.1	1938-
West Fork Mill Creek at Mount Healthy, Ohio.....	7.88	1949-53.
West Fork Mill Creek Reservoir near Greenhills, Ohio.....	29.5	1953- †
West Fork Mill Creek near Greenhills, Ohio.....	29.9	1945-53.
West Fork Mill Creek at Woodlawn, Ohio.....	31.9	1952-
West Fork Mill Creek at Lockland, Ohio.....	35.6	1938-
Mill Creek at Arlington Heights, Ohio.....	109	1912-16*.
Mill Creek at Carthage, Ohio.....	116	1946-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

* Fragmentary record.

b/ Approximately.

B/ In reports of U. S. Weather Bureau.

f/ In reports of Mississippi River Commission, 1858-86; in files of U. S. Weather Bureau 1886-90;
in reports of U. S. Weather Bureau since 1890.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
Mill Creek basin--continued		
Mill Creek at Mitchell Avenue, Cincinnati, Ohio.....	136	1940-48.
Mill Creek at Cincinnati, Ohio.....	154	1912-13*.
Miami River basin		
Indian Lake at Russells Point, Ohio.....	109	1946- *
Miami River at Quincy, Ohio.....	408	1946-49.
Miami River at Sidney, Ohio.....	545	1914-
Loramie Creek at Lockington, Ohio.....	261	1915-
Miami River at Piqua, Ohio.....	842	1913-14*; 1915-17.
Miami River at Taylorsville, Ohio.....	1,155	1914-17; 1922-
Stillwater River:		
Greenville Creek near Greenville, Ohio.....	141	1923-31.
Greenville Creek near Bradford, Ohio.....	195	1931-
Stillwater River at Covington, Ohio.....	438	1930-35.
Stillwater River at Pleasant Hill, Ohio.....	502	1916-26; 1934-
Stillwater River near West Milton, Ohio.....	600	1914-18; 1916-17*.
Stillwater River at Englewood, Ohio.....	646	1925-
Mad River at Zanesfield, Ohio.....	6.41	1946-
Mad River near Urbana, Ohio.....	157	1925-31; 1939-
Mad River near Tremont City, Ohio.....	260	1931-33.
Buck Creek at New Moorefield, Ohio.....	67.3	1942-
Beaver Creek near Springfield, Ohio.....	37.3	1942-
Buck Creek at Springfield, Ohio.....	137	1914-21; 1924-49.
Mad River near Springfield, Ohio.....	485	1904-6; 1914-
Mad River near Dayton, Ohio.....	632	1914-21; 1924-
Miami River at Dayton, Ohio.....	2,513	1905-6; 1907-9*; 1913-19; 1919-21*; 1921-
Wolf Creek at Dayton, Ohio.....	69.5	1938-50.
Miami River near Miamisburg, Ohio.....	2,719	1916-20; 1924-35; 1952-
Twin Creek near Germantown, Ohio.....	275	1914-23; 1926-
Talawanda (Fourmile) Creek near Sevenmile, Ohio.....	166	1914-17*.
Sevenmile Creek at Sevenmile, Ohio.....	137	1914-20.
Talawanda Creek near Hamilton, Ohio.....	311	1937-
Miami River at Hamilton, Ohio.....	3,639	1910-18; 1927-
Miami River at Venice, Ohio.....	3,790	1915-27.
Whitewater River near Alpine, Ind.....	539	1928-
East Fork Whitewater River at Richmond, Ind.....	123	1949-
East Fork Whitewater River near Brookville, Ind.....	382	1954-
Whitewater River at Brookville, Ind.....	1,239	1915-17; 1917-20*; 1927- ; (1923-27)g/
Laughery Creek basin		
Laughery Creek near Farmers Retreat, Ind.....	248	1940-
Kentucky River basin		
North Fork Kentucky River at Hazard, Ky.....	466	1940- ; (1925- *)d/
Troublesome Creek:		
Buckhorn Creek:		
Bear Branch near Noble, Ky.....	2.23	1954-
Troublesome Creek at Noble, Ky.....	178	1949-
Troublesome Creek near Clayhole, Ky.....	187	1929-31.
Quicksand Creek near Jackson, Ky.....	153	1929-31.
North Fork Kentucky River at Jackson, Ky.....	1,103	1928-31; 1936-37; 1938- ; (1904-7; 1913-21; 1934- *)d/
North Fork Kentucky River near Airdale, Ky.....	1,297	1929-31; 1939-42.
Middle Fork Kentucky River at Tallega, Ky.....	537	1930-32; 1939-
Kentucky River:		
South Fork Kentucky River at Booneville, Ky.....	720	1925-31; 1939-
Kentucky River at lock 14, at Heidelberg, Ky.....	2,657	1925-31; 1936-37; 1938-
Red River near Hazel Green, Ky.....	65.8	1954-
Stillwater Creek at Stillwater, Ky.....	24.0	1954-
Red River at Clay City, Ky.....	362	1930-32; 1938-
Kentucky River at lock 10, near Winchester, Ky.....	3,956	1907-
Kentucky River at lock 8, near Camp Nelson, Ky.....	4,414	1939-
Dix River near Danville, Ky.....	316	1905*; 1942-
Dix River near Burgin, Ky.....	395	1910-22.
Herrington Lake near Burgin, Ky.....	439	1950- †
Kentucky River at lock 7, at Highbridge, Ky.....	5,038	1925-27.
Kentucky River at lock 6, near Salviss (at Warwick), Ky...	5,102	1925-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

d/ In reports of U. S. Weather Bureau.

g/ In reports of Indiana Department of Conservation.

INDEX, PART 3, OHIO RIVER BASIN

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
Kentucky River basin--continued		
Kentucky River at lock 4, at Frankfort, Ky.....	5,412	1905-6*; 1925-30; 1930-32*; 1932-
North Elkhorn Creek near Georgetown, Ky.....	119	1950-
South Elkhorn Creek:		
Cave Creek near Fort Spring, Ky.....	2.58	1952-
South Elkhorn Creek at Fort Spring, Ky.....	22.8	1950-
Elkhorn Creek near Frankfort (at Forks of Elkhorn), Ky..	474	1915-18; 1918-20* ; 1939-
Flat Creek near Frankfort, Ky.....	5.60	1951-
Kentucky River at lock 2, at Lockport, Ky.....	6,181	1925-30; 1930-32*; 1932-37; 1939-
Eagle Creek at Sadieville, Ky.....	42.6	1941-
Eagle Creek at Olencoe, Ky.....	438	1915-18; 1918-20*; 1928-31; 1938-
Ohio River at Madison, Ind.....	90,580	1939-46*; (1946- * ††)
Beargrass Creek basin		
South Fork Beargrass Creek at Louisville, Ky.....	18.8	1939-40; 1944-53; 1953-54* ††; 1954-
Middle Fork Beargrass Creek at Cannons Lane, at Louisville, Ky.....	18.5	1944-
Middle Fork Beargrass Creek at Louisville, Ky.....	24.8	1939-40.
Silver Creek basin		
Silver Creek near Sellersburg, Ind.....	188	1954-
Ohio River at Louisville, Ky.....	b/91,170	1935- ; (1871- *)d/
Salt River basin		
Salt River near Harrodsburg, Ky.....	41.4	1952-
Salt River near Van Buren, Ky.....	200	1938-
Plum Creek:		
Plum Creek subwatershed No. 4 near Simpsonville, Ky...	1.57	1954-
Plum Creek near Wilsonville, Ky.....	19.1	1954-
Little Plum Creek near Waterford, Ky.....	5.16	1954-
Plum Creek at Waterford, Ky.....	31.9	1953-
Floyds Fork at Fisherville, Ky.....	138	1944-
Salt River at Shepherdsville, Ky.....	b/1,230	1938-
Rolling Fork near Lebanon, Ky.....	240	1938-
Rolling Fork at New Haven, Ky.....	481	1905-6*.
Beech Fork near Springfield, Ky.....	85.9	1952-
Beech Fork at Fredericktown, Ky.....	530	1930-32.
Beech Fork at Bardstown, Ky.....	664	1939-
Rolling Fork near Boston, Ky.....	b/1,290	1938-
Pond Creek near Louisville, Ky.....	63.1	1944-
Big Indian Creek basin		
Big Indian Creek near Corydon, Ind.....	129	1943-
Blue River basin		
Blue River near White Cloud, Ind.....	461	1931- ; (1909-12, 1914-16)g/
Ohio River at Owensboro, Ky.....	b/97,200	1940-52; 1952-54*.
Little Pigeon Creek basin		
Little Pigeon Creek near Tennyson, Ind.....	150	1943-47.
Green River basin		
Green River:		
McGills Creek near McKinney, Ky.....	2.19	1951-
Green River near McKinney, Ky.....	22.4	1951-
Green River near Mount Salem, Ky.....	36.3	1953-
Green River near Campbellsville, Ky.....	720	1930-32.
Green River at Greensburg, Ky.....	742	1939-
Russell Creek near Columbia, Ky.....	186	1939-
South Fork Little Barren River at Edmonton, Ky.....	18.1	1941-
Green River near Cammer, Ky.....	b/1,630	1928.
Green River at Munfordville, Ky.....	b/1,780	1915-22; 1927-31; 1936-37; 1938- ; (1924- *)d/
Green River at Mammoth Cave, Ky.....	b/2,020	1938-50; 1950- * ††
North Fork Nolin River:		
McDougal Creek near Hodgenville, Ky.....	5.27	1953-

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

†† Unpublished.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

g/ In reports of Indiana Department of Conservation.

Gaging station	Drainage area (sq mi)	Period of record
Ohio River--continued		
Green River basin--continued		
North Fork Nolin River at Hodgenville, Ky.....	42.4	1941-
Nolin River at Wax, Ky.....	600	1936-37; 1938-
Nolin River near Kyrock, Ky.....	673	1930-32; 1939-50.
Green River at lock 6, at Brownsville, Ky.....	b/2,850	1924-31; 1936-37; 1938-
Beas Creek near Leitchfield, Ky.....	30.8	1949-
Barren River near Pageville, Ky.....	535	1939-
Barren River at Port Oliver Ford, near Finney, Ky.	941	1941-50.
West Bays Fork at Scottsville, Ky.....	7.52	1950-
Drakes Creek near Alvston, Ky.....	484	1939-
Barren River at Bowling Green, Ky.....	b/1,680	1938- ; (1901-24*; 1924-) *d/
Barren River at lock 1, at Greencastle, Ky.....	b/1,820	1924-31; 1936-37.
Green River at lock 4, at Woodbury, Ky.....	b/5,410	1936-
Mud River near Lewisburg, Ky.....	97.3	1939-
Green River at Green River, Ky.....	b/6,180	1939-50; 1950- **†
Rough River near Madrid, Ky.....	229	1938-
North Fork Rough River near Westview, Ky.....	b/42.4	1954-
Rough River near Falls of Rough, Ky.....	449	1940- †
Rough River at (near) Falls of Rough, Ky.....	500	1940-
Rough River near Dundee, Ky.....	752	1940-
Rough River at Dundee, Ky.....	815	1930-31; 1938-40.
Green River at Livermore, Ky.....	b/7,580	1930-
East Fork Pond River (Pond River) near Apex, Ky...	196	1940-
Pond River near White Plains, Ky.....	346	1928-31; 1937-40.
Green River at lock 1, at Spottsville, Ky.....	b/9,180	1928-31†.
Ohio River at Evansville, Ind.....	b/107,000	1936-40† ; 1940-
Wabash River basin		
Wabash River near New Corydon, Ind.....	258	1951-
Wabash River at Bluffton, Ind.....	506	1930- ; (1910-23*)d/; (1923-30)g/
Wabash River at Huntington, Ind.....	710	1951-
Little River near (at) Huntington, Ind.....	266	1944-
Salamonie River at Dora, Ind.....	553	1930- ; (1923-30)g/
Wabash River at Wabash, Ind.....	1,733	1930- ; (1923-30)g/
Mississinewa River near Ridgeville, Ind.....	130	1946-
Mississinewa River near Eaton, Ind.....	304	1952-
Mississinewa River at Marion, Ind.....	677	1930- ; (1923-30)g/
Mississinewa River at Peoria, Ind.....	809	1952-
Wabash River at Peru, Ind.....	2,655	1943-
Eel River at North Manchester, Ind.....	416	1930 ; (1923-30)g/
Eel River near Logansport, Ind.....	791	1943-
Wabash River at Logansport, Ind.....	3,751	1903-6; 1923- ; (1910-23*)d/
Wabash River at Delphi, Ind.....	4,032	1940-
Deer Creek near Delphi, Ind.....	276	1943-
Tippecanoe River at Oswego, Ind.....	115	1949-
Tippecanoe River near Warsaw, Ind.....	125	1943-49.
Tippecanoe River near Ora, Ind.....	839	1943-
Tippecanoe River at Pulaski, Ind.....	1,066	1927-31.
Tippecanoe River near Monticello, Ind.....	1,710	1931-
Tippecanoe River near Delphi, Ind.....	1,857	1903-6; 1908; 1939-
Wildcat Creek at Greentown, Ind.....	162	1945-
Wildcat Creek at Owasco, Ind.....	390	1944-
South Fork Wildcat Creek near Lafayette, Ind....	246	1944-
Wildcat Creek near Lafayette, Ind.....	791	1954-
Wabash River at Lafayette, Ind.....	7,247	1901-2; 1903*; 1927- ; (1913-23*)d/ (1923-27)g/
Wabash River at Covington, Ind.....	8,208	1939- ; (1927-39*)d/
Vermilion River:		
Bluegrass Creek at Potomac, Ill.....	34.5	1949-
Salt Fork Vermilion River:		
West Branch Salt Fork:		
Boneyard Creek at Urbana, Ill.....	4.64	1948-
West Branch Salt Fork at Urbana, Ill.....	71.4	1936-
Salt Fork Vermilion River near Homer, Ill.....	344	1944-

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

** Unpublished.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

g/ In reports of Indiana Department of Conservation.

h/ Of which 19.8 sq mi may be noncontributing because of sink holes.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
Wabash River basin--continued		
Vermilion River near Catlin, Ill.....	959	1940-
Vermilion River near Danville, Ill.....	b/1,280	1914-21; 1928-
Sugar Creek at Crawfordsville, Ind.....	509	1938-
Sugar Creek near Byron, Ind.....	668	1940-
Wabash River at Montezuma, Ind.....	b/11,100	1927- ; (1924-27*)g/
Raccoon Creek at Mansfield, Ind.....	240	1939-
Wabash River at Terre Haute, Ind.....	b/12,200	1902-3*; 1905-6; 1927- ; (1904; 1906-27)*d/
Wabash River at Riverton, Ind.....	b/13,100	1939-
Busseron Creek near Carlisle, Ind.....	228	1943-
Wabash River at Vincennes, Ind.....	b/13,700	1929- ; (1904-29*)d/
Embarrass River near Oakland, Ill.....	535	1909-12; 1914-15.
Embarrass River near Diona, Ill.....	903	1938-40; 1944-47.
Range Creek near Casey, Ill.....	7.60	1950- ††
Embarrass River at Newton, Ill.....	b/1,390	1939-45.
Embarrass River at Ste. Marie, Ill.....	b/1,540	1909-12; 1914-
North Fork Embarrass River near Oblong, Ill.....	304	1940-
Embarrass River at Lawrenceville, Ill.....	b/2,260	1930-33.
White River (West Fork) at Muncie, Ind.....	242	1930- ; (1923-29)g/
Buck Creek near Muncie, Ind.....	36.7	1954-
White River (West Fork) at Anderson, Ind.....	401	1932- ; (1910-32*)d/; (1925-27)g/
White River (West Fork) near Noblesville, Ind.....	814	1915-22; 1927- ; (1922-27)g/
White River (West Fork) at Noblesville, Ind.....	837	1946- ; (1913-46*)d/
Cicero Creek near Arcadia, Ind.....	131	1954-
Cicero Creek near Cicero, Ind.....	196	1946-54.
Cicero Creek at Noblesville, Ind.....	219	1950-
White River (West Fork) near Nora, Ind.....	1,200	1930- ; (1925-26; 1929-30)g/
Pall Creek near Fortville, Ind.....	172	1941-
Lawrence Creek at Fort Benjamin Harrison, Ind..	2.86	1952-
Pall Creek at Millersville, Ind.....	313	1930- ; (1925-26; 1929-30)g/
White River (West Fork) at Indianapolis, Ind.....	1,627	1904-6; 1930- ; (1925-30)g/
Eagle Creek at Indianapolis, Ind.....	179	1938-
White River (West Fork) near Centerton (at and near Martinsville), Ind.....	2,435	1930-32; 1946- ; (1925-30)g/
Bean Blossom Creek at Bean Blossom, Ind.....	14.6	1951-
Bear Creek near Trevlac, Ind..	7.00	1952-
Bean Blossom Creek below Bloomington Reservoir, Ind.....	64.0	1953-
Bean Blossom Creek at Dolan, Ind.....	100	1946-
Bean Blossom Creek near Bloomington, Ind.....	112	1931-32.
White River (West Fork) at Spencer, Ind.....	2,980	1927- ; (1925-27)g/
Bel River (Big Walnut Creek) near Reelsville, Ind.	338	1949-
Mill Creek near Cataract, Ind.....	241	1949-
Mill Creek (Bel River) at Cataract, Ind.....	248	1903-6.
Mill Creek near Manhattan, Ind.....	292	1931; 1939-
Deer Creek at Putnamville, Ind.....	59.0	1954-
Bel River at Bowling Green (near Centerpoint), Ind.	844	1931-
White River (West Fork) at Newberry, Ind.....	4,696	1928-
Blue River (head of East Fork White River) at Carthage, Ind.....	187	1950-
Blue River at Shelbyville, Ind.....	425	1943-
Sugar Creek:		
Youngs Creek near Edinburg, Ind.....	109	1942-
Sugar Creek near Edinburg, Ind.....	462	1943-
Driftwood River (continuation of Blue River) near Edinburg, Ind.....	1,054	1941-
Flatrock Creek at St. Paul, Ind.....	298	1930-
East Fork White River at Columbus, Ind.....	1,692	1948-
Clifty Creek at Hartsville, Ind.....	88.8	1948-
Sand Creek near Brewersville, Ind.....	153	1948-
East Fork White River at Seymour, Ind.....	2,333	1927- ; (1923-27)g/
Graham Creek (head of Muscatatuck River) near Vernon, Ind.....	77.6	1955-
Muscatatuck River near Deputy, Ind.....	296	1947-
Muscatatuck River near Austin, Ind.....	365	1932-43; 1943- *
Stucker Creek near Austin, Ind.....	126	1932.

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

†† Unpublished.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

g/ In reports of Indiana Department of Conservation.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Ohio River--continued		
Wabash River basin--continued		
White River--continued		
East Fork White River--continued		
Muscatatuck River--continued		
Vernon Fork:		
North Fork of Vernon Fork:		
Brush Creek near Nebraska, Ind.....	1.7	1955-
Brush Creek below Brush Creek Reservoir near Butlerville, Ind.....	14.8	1953-
North Fork of Vernon Fork near Butlerville, Ind.....	87.3	1942-
Vernon Fork at Vernon, Ind.....	201	1939-
Vernon Fork near Crothersville, Ind.....	395	1932.
Muscatatuck River near Tampico, Ind.....	1,060	1939.
Muscatatuck River near Vallonia, Ind.....	1,144	1932.
East Fork White River near Bedford, Ind.....	4,060	1939-43; 1943- ‡
Salt Creek:		
North Fork Salt Creek near Belmont, Ind.....	120	1946-
Salt Creek near Harrodsburg, Ind.....	441	1955-
Salt Creek near Peerless, Ind.....	582	1939-50.
East Fork White River at Shoals, Ind.....	4,954	1903-6; 1908-16; 1926- ; (1916-23*)d/(1923-28)g/
White River at Petersburg, Ind.....	11,139	1937- ; (1935-37*)d/
White River at Hazelton, Ind.....	11,319	1928-38; (1924-28)g/.
Patoka River near Haysville, Ind.....	240	1954-
Patoka River at Jasper, Ind.....	270	1947-
Patoka River near Jasper, Ind.....	342	1943-47.
Patoka River near Princeton, Ind.....	815	1939-
Patoka River at Patoka, Ind.....	830	1934-40.
Wabash River at Mount Carmel, Ill.....	b/28,600	1908-13*; 1927- ; (1884- *)d/
Bonpas Creek at Browns, Ill.....	235	1940-
Wabash River at New Harmony, Ind.....	b/29,160	1938-47.
Little Wabash River near Clay City, Ill.....	808	1908-12*.
Little Wabash River at Wilcox, Ill.....	b/1,130	1914-
Little Wabash River near Golden Gate, Ill.....	b/1,780	1908-12*.
Skillet Fork at Wayne City, Ill.....	475	1908-12; 1914-21; 1928-
Skillet Fork near Mill Shoals, Ill.....	912	1908-12*.
Little Wabash River at Carmi, Ill.....	b/3,090	1908-12*; 1939-
<u>Saline River basin</u>		
Saline River:		
Middle Fork Saline River near Harrisburg, Ill.....	198	1922-32.
Saline River near Junction, Ill.....	b/1,040	1939-
<u>Tradewater River basin</u>		
Tradewater River at Olney, Ky.....	255	1940-
Tradewater River near Dalton, Ky.....	284	1928-31; 1937-40.
Clear Creek:		
Weirs Creek:		
Rose Creek at Nebo, Ky.....	2.03	1951-
Ohio River at Golconda, Ill.....	b/143,900	1937-40*; 1940-52; 1952- ‡
<u>Bay Creek basin</u>		
Bay Creek:		
Hayes Creek at Glendale, Ill.....	18.9	1949-
Sugar Creek:		
Lake Glendale inlet near Dixon Springs, Ill.....	1.04	1954-
Lake Glendale near Dixon Springs, Ill.....	2.11	1954
Sugar Creek near Dixon Springs, Ill.....	9.70	1950-
Ohio River at Metropolis, Ill.....	b/203,000	1934- ; (1926-)d/
<u>Cache River basin</u>		
Cache River at Forman, Ill.....	242	1922-
Big Creek near Wetaug, Ill.....	32.2	1941-51 1/.

PART 3-B, CUMBERLAND AND TENNESSEE RIVER BASINS

Cumberland River basin

Poor Fork (head of Cumberland River) at Harlan-Letcher

County Line, Ky..... 51.4 1940-43; (1943-45* ††).

Poor Fork at Cumberland, Ky..... 82.1 1940-

* Gage heights or gage heights and discharge measurements only.

‡ Fragmentary record.

†† Unpublished.

d/ Approximately.

g/ In reports of U. S. Weather Bureau.

h/ In reports of Indiana Department of Conservation.

i/ In reports of Mississippi River Commission, also occasional discharge measurements 1881-1924.

j/ Records are published in Part 5 for the period 1950-.

INDEX, PART 3, OHIO RIVER BASIN

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Cumberland River basin--continued		
Cumberland River near Harlan, Ky.....	374	1940-
Yellow Creek near Middlesboro, Ky.....	59.9	1940-
Cumberland River at Pineville, Ky.....	692	1929-31.
Cumberland River near Pineville, Ky.....	822	1938-
Cumberland River at Barbourville, Ky.....	972	1922-31; 1948-
Cumberland River at Williamsburg, Ky.....	1,673	1950- ; (1908- *)d/
Cumberland River at Cumberland Falls, Ky.....	1,997	1907-11; 1915-
Laurel River at Corbin (near Otas), Ky.....	198	1922-24; 1942-
Laurel River near Vox, Ky.....	239	1930-31.
Rockcastle River:		
Wood Creek near London, Ky.....	3.84	1953-
Rockcastle River at Billows, Ky.....	607	1936-
Rockcastle River at Rockcastle Springs, Ky.	746	1922-31.
Buck Creek near Shopville, Ky.....	163	1952-
New River (head of South Fork Cumberland River) near		
New River, Tenn.....	312	1922-34.
New River at New River, Tenn.....	383	1934- ; (1908-34*)d/
Clear Fork:		
White Oak Creek at Sunbright, Tenn.....	14.5	1932-33.
Clear Fork (River) near Robbins, Tenn.....	278	1930-
Pine Creek:		
Pine Creek tributary (Pine Creek) at Oneida, Tenn.....	1.3	1932-33.
South Fork Cumberland River near Stearns, Ky.....	942	1942-
South Fork Cumberland River at Nevelsville, Ky.....	1,264	1915-50.
Cumberland River at Burnside, Ky.....	b/4,860	1914-50; 1950- * ++
Pitman Creek near Somerset, Ky.....	26.3	1950-53.
Pitman Creek at Somerset, Ky.....	31.1	1953-
Cumberland River near Jamestown, Ky.....	b/5,370	1938-40.
Wolf Creek Reservoir near Jamestown, Ky.....	b/5,790	1950- †
Cumberland River near Rowena, Ky.....	b/5,790	1939-
East Fork Obey River near Jamestown, Tenn.....	204	1943-
West Fork Obey River near Alpine, Tenn.....	1/108	1942-
Obey River near Byrdstown (Boom), Tenn.....	452	1919-43.
Wolf River near Byrdstown, Tenn.....	105	1943-
Dale Hollow Reservoir at Dale Hollow Dam, Tenn.....	935	1943- †
Obey River below Dale Hollow Dam (near Celina), Tenn.....	935	1939-
Cumberland River at Celina, Tenn.....	b/7,320	1922- ; (1903-22*)d/
Roaring River near Hilham, Tenn.....	70.8	1932-
Caney Fork at Clifty, Tenn.....	114	1930-49.
Bee Creek at Herbert, Tenn.....	108	1930-37.
Calfkiller River at Sparta, Tenn.....	150	1932-41.
Calfkiller River below Sparta, Tenn.....	178	1940-
Collins River:		
Barren Fork near Trousdale (McMinnville), Tenn.....	132	1932-
Collins River near McMinnville, Tenn.....	624	1925-
Collins River near Rowland, Tenn.....	740	1916-25.
Great Falls Lake (Reservoir) near Rock Island, Tenn.....	1,640	1917- †
Caney Fork near Rock Island, Tenn.....	1,640	1911-24; 1925-
Falling Water River near Cookeville, Tenn.....	73.3	1932-
Caney Fork near Silver Point, Tenn.....	b/2,100	1922-48.
Center Hill Reservoir at Center Hill Dam near Smithville, Tenn.	2,195	1948- †
Caney Fork (near Lancaster) below Center Hill Dam, near		
Lancaster, Tenn.....	b/2,200	1944-
Cumberland River at Carthage, Tenn.....	b/10,700	1922- ; (1885-1922*)d/
Spring Creek near Lebanon, Tenn.....	34.1	1954-
Drake Creek above Hendersonville, Tenn.....	19.3	1954-
Cumberland River at dam 3 near Old Hickory, Tenn.....	b/11,700	1931-42; 1947-53.
East Fork Stones River:		
Bradleys Creek at Lascassas, Tenn.....	38.0	1954-
East Fork Stones River near Lascassas, Tenn.....	264	1951-
West Fork Stones River near Murfreesboro, Tenn.....	119	1932-
West Fork Stones River below Murfreesboro, Tenn.....	157	1934†.
Stones River near Smyrna, Tenn.....	552	1925-
Stewart Creek near Smyrna, Tenn.....	b/71	1952-
Stones River above Donelson, Tenn.....	834	1940-
Stones River near Donelson, Tenn.....	b/880	1939-40.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

++ Unpublished.

b/ Approximately.

3/ In reports of U. S. Weather Bureau.

1/ Includes 19 sq mi without surface drainage.

PART 3-B, CUMBERLAND AND TENNESSEE RIVER BASINS

17

Gaging station	Drainage area (sq mi)	Period of record
Cumberland River basin--continued		
Mill Creek near Antioch, Tenn.....	b/64	1953-
Cumberland River at Nashville, Tenn.....	b/12,860	1902-4*; 1918-54; (1873-1917*)d/ (1887-1924)k/
Richland Creek near Nashville, Tenn.....	27.8	1938-40*.
Harpeth River:		
West Harpeth River near Leipers Fork, Tenn.....	66.0	1954-
Little Harpeth River:		
Radner Lake (on Otter Creek) near Nashville, Tenn.....	2.15	1932-39*††.
Harpeth River at Belleview, Tenn.....	404	1920-29; 1932-
Turnbull Creek at Kingston Springs, Tenn.....	123	1926-27*.
Harpeth River near Kingston Springs, Tenn.....	687	1925-
Cumberland River below Cheatham Dam, Tenn.....	b/14,200	1954-
Cumberland River at Clarksville, Tenn.....	b/16,000	1922-23*; 1924-44; (1922-24*)k/
Red River near Adams, Tenn.....	678	1920-
Sulphur Fork Red River near Adams, Tenn.....	185	1939-
Cumberland River at Dover, Tenn.....	b/16,530	1937-
South Fork Little River at Hopkinsville, Ky.....	46.2	1949-
Little River near Cadiz, Ky.....	249	1940-
Cumberland River at Smithland, Ky.....	b/18,080	1939-40*; 1940-
Tennessee River basin		
French Broad River (head of Tennessee River) at Rosman, N. C..	67.9	1907-9; 1936-
French Broad River at Calvert, N. C.....	103	1924-55.
Catheys Creek near Brevard, N. C.....	11.7	1944-55.
Davidson River near Davidson River, N. C.....	31.0	1904-9.
Davidson River near Brevard, N. C.....	40.4	1920-
Little River near Penrose, N. C.....	41.4	1942-55.
Crab Creek near Penrose, N. C.....	10.9	1942-55.
Little River at Calhoun, N. C.....	60.1	1907-8.
French Broad River at Blantyre, N. C.....	296	1920-
French Broad River at Horseshoe, N. C.....	326	1904-6.
Boylston Creek near Horseshoe, N. C.....	14.8	1942-55.
South Fork Mills River at The Pink Beds, N. C.....	9.99	1926-49.
South Fork Mills River near Sittou, N. C.....	41.0	1904-9; 1926.
North Fork Mills River at Pink Beds, N. C.....	23.1	1904-9.
Mills River near Mills River, N. C.....	66.7	1924-26; 1934-
Mud Creek:		
Clear Creek near Hendersonville, N. C.....	42.2	1945-55.
Mud Creek at Naples, N. C.....	109	1907; 1938-55.
Cane Creek at Fletcher, N. C.....	63.1	1942-
French Broad River at Bent Creek, N. C.....	676	1934-
Hominy Creek at Candler, N. C.....	79.8	1942-
Swannanoa River:		
North Fork Swannanoa River near Black Mountain, N. C.....	23.8	1926-
Swannanoa River at Swannanoa, N. C.....	62.1	1907-9*; 1926-31.
Beetree Creek near Swannanoa, N. C.....	5.46	1926-
Swannanoa River at Azalea, N. C.....	102	1946-47.
Swannanoa River at Biltmore, N. C.....	130	1920-26; 1934-
French Broad River at Asheville, N. C.....	945	1895-1901; 1905-; (1903-23)k/l/
Sandymush Creek near Alexander, N. C.....	79.5	1942-55.
Ivy River at Democrat, N. C.....	54.0	1907*.
Ivy River near Marshall, N. C.....	158	1934-
French Broad River at Marshall, N. C.....	1,332	1942-
Big Laurel Creek near Stackhouse, N. C.....	126	1934-
French Broad River at Hot Springs, N. C.....	1,567	1934-49.
French Broad River near Newport (at Oldtown), Tenn.....	1,858	1900-1901; 1902-5; 1907; 1920-
West Fork Pigeon River above Lake Logan, near Hazelwood, N.C.	27.6	1954-
West Fork Pigeon River below Lake Logan, near Waynesville, N. C.....	55.3	1954-
East Fork Pigeon River near Canton, N. C.....	51.5	1954-
Pigeon River at Canton, N. C.....	133	1907-9*; 1928-; (1907-9)k/l/
Richland Creek:		
Allen Creek near Hazelwood, N. C.....	14.4	1949-
Richland Creek at Waynesville, N. C.....	44.5	1944-45.

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

†† Unpublished.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

k/ In Tennessee Division of Geology, Bull. 34.

l/ In North Carolina Department of Conservation and Development, Bull. 34.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Tennessee River basin--continued		
French Broad River--continued		
Pigeon River near Crabtree, N. C.....	243	1920-29.
Jonathan Creek near Cove Creek, N. C.....	65.3	1930-
Pigeon River near Hepco, N. C.....	350	1927-
Cataloochee Creek near Cataloochee, N. C.....	49.2	1934-52.
Pigeon River near Mount Sterling, N. C.....	460	1924-30.
Pigeon River at Hartford, Tenn.....	547	1925-48.
Pigeon River at (near) Newport, Tenn.....	666	1903-5; 1906-9; 1918-29; 1945-46; 1948-; (1900-1901; 1902-5; 1906-24)k/
North Toe River (head of Nolichucky River) at Altapass, N.C.	104	1938-
North Toe River above Spruce Pine, N. C.....	111	1934-38.
North Toe River at Spruce Pine, N. C.....	131	1907-8†; 1920*; 1921-26
South Toe River at Newdale, N. C.....	60.8	1934-52.
Cane River near Sioux, N. C.....	157	1934-
Nolichucky River at Poplar, N. C.....	608	1925-55.
North Indian Creek near Unicoi, Tenn.....	15.9	1944-
Nolichucky River at Embreeville, Tenn.....	805	1920-
Nolichucky River near Chucky Valley, Tenn.....	817	1900-1901.
Nolichucky River below Nolichucky Dam (near Greenville), Tenn.	1,184	1919-25; 1945- (1903-8)k/
Lick Creek at Mohawk, Tenn.....	220	1946-
Nolichucky River near Morristown, Tenn.....	1,679	1920-
French Broad River at Dandridge, Tenn.....	4,466	1918-42. (1904-18*)d/
Douglas Lake (Reservoir) near Sevierville, Tenn.....	4,541	1943- + m/
French Broad River below Douglas Dam, Tenn.....	4,543	1942-
Little Pigeon River:		
West Fork Little Pigeon River near Pigeon Forge, Tenn.....	76.2	1946-49.
Little Pigeon River at Sevierville, Tenn.....	353	1920-
French Broad River near Knoxville, Tenn.....	5,101	1945-
South Fork Holston River:		
Dickey Creek:		
Steve Keesling Spring at Sugar Grove, Va.....	-	1947- ‡‡
South Fork Holston River at Riverside, near Chilhowie, Va...	76.1	1920-31; 1942-
South Fork Holston River near Chilhowie, Va.....	89.5	1907-9.
Laurel Creek:		
Beaverdam Creek at Damascus, Va.....	56.0	1947-
South Fork Holston River at Vestal, Va.....	301	1931-
Middle Fork Holston River at Groseclose, Va.....	7.39	1947-
Middle Fork Holston River at Sevenmile Ford, Va.....	132	1942-
Middle Fork Holston River at Chilhowie, Va.....	155	1907-9; 1920-31.
Middle Fork Holston River near Meadowview, Va.....	211	1931-53.
Cedar Creek:		
East Fork Cedar Creek:		
Cedarville Spring at Cedarville, Va.....	-	1949-52††.
South Holston Lake (Reservoir) at South Holston Dam, Tenn...	703	1950- + m/
South Fork Holston River below South Holston Dam, Tenn.....	703	1951-
South Fork Holston River at Bluff City, Tenn.....	813	1907-1953; (1900-1924)k/
Beaver Creek near Wallace, Va.....	13.7	1945-
Percy Preston Spring near Wallace, Va.....	-	1947-††
Beaver Creek at Bristol, Tenn.....	44.8	1932-33.
Watauga River near Sugar Grove, N. C.....	90.8	1940-
Watauga River at North Carolina-Tennessee State line.....	152	1942-55.
Watauga River at Stump Knob, Tenn.....	171	1927-31; 1934-45.
Elk River (Creek) near Banner Elk, N. C.....	17.8	1934-40.
Elk River (Creek) near Elk Park, N. C.....	42.0	1934-55.
Elk River (Creek) at Lineback, Tenn.....	82.0	1900-1901*.
Roan Creek near Neva, Tenn.....	103	1942-55.
Roan Creek at Butler, Tenn.....	166	1900-1901; 1934-48.

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

‡‡ Discharge measurements only.

d/ In reports of U. S. Weather Bureau.

k/ In Tennessee Division of Geology, Bull. 34.

m/ Daily records in reservoir reports of Tennessee Valley Authority.

Gaging station	Drainage area (sq mi)	Period of record
Tennessee River basin--continued		
French Broad River--continued		
South Fork Holston River--continued		
Watauga River at Butler, Tenn.....	427	1921-48; (1900-1901; 1920-24)k/
Watauga Lake (Reservoir) at Watauga Dam, near Elizabethton, Tenn.	468	1948- † m/
Watauga River below Wilbur Dam (near Elizabethton), Tenn..	471	1903-8; 1948-
Doe River at Blevins, Tenn.....	60.8	1911-15.
Doe River at Valley Forge, Tenn.....	131	1911-16; 1920-31.
Doe River at Elizabethton, Tenn.....	137	1907-8*; 1912*; 1932-
Watauga River at Elizabethton, Tenn.....	692	1925-49; 1953- (1909-25*)d/
Brush Creek at Johnson City, Tenn.....	9.38	1952-33.
Fort Patrick Henry Lake (Reservoir) at Fort Patrick Henry Dam, Tenn.....	1,903	1953- † m/
South Fork Holston River at Kingsport, Tenn.....	1,931	1925-
North Fork Holston River at and near Saltville, Va.....	222	1907-8; 1920-
North Fork Holston River at Holston, Va.....	402	1951-
Big Moccasin Creek near Gate City, Va.....	79.6	1952-
North Fork Holston River at Mendota, Va.....	500	1920-31.
North Fork Holston River near Gate City, Va.....	672	1931-
Holston River at Surgoinsville, Tenn.....	2,874	1941-
Big Creek near Rogersville, Tenn.....	47.3	1941-49.
Holston River near Rogersville, Tenn.....	3,035	1902-1942; 1942-45* ††.
Holston River near Morristown, Tenn.....	3,244	1937-42; 1942-48* ††.
Mossy Creek:		
Unnamed tributary:		
Mossy Spring near Jefferson City, Tenn.....	-	1953-
Mossy Creek at Jefferson City, Tenn.....	30.8	1932-34.
Cherokee Lake (Reservoir) near Jefferson City, Tenn.....	3,429	1941- † m/
Holston River near Jefferson City, Tenn.....	3,429	1937-
Mill Spring Creek:		
Mill Spring near Jefferson City, Tenn.....	-	1953-
Holston River at Strawberry Plains, Tenn.....	3,626	1930-48.
Holston River near Knoxville, Tenn.....	3,747	1945-
Tennessee River:		
First Creek at Mineral Springs Avenue, at Knoxville, Tenn...	n/15.7	1945-
First Creek (at Knoxville) at Fifth Avenue, at Knoxville, Tenn.	o/21.1	1932-34; 1945-
Tennessee River at Knoxville, Tenn.....	8,934	1918-; (1883-99*)d/; (1899-1924)k/
Little River at Walland, Tenn.....	175	1925-31.
Little River near Walland, Tenn.....	192	1931-52.
Little River near Maryville, Tenn.....	269	1951-
Pistol Creek at Maryville, Tenn.....	13.5	1932-33.
Fort Loudoun Lake (Reservoir) near Lenoir City, Tenn.....	9,550	1943- † m/
Little Tennessee River near Prentiss, N. C.....	140	1944-
Cullasaja River (Creek) at Highlands, N. C.....	14.9	1927-
Cullasaja River (Creek) at Cullasaja, N. C.....	86.5	1907-9; 1921-
Little Tennessee River at Franklin, N. C.....	295	1907-10; 1921-25.
Little Tennessee River at Iotla, N. C.....	323	1929-45.
Little Tennessee River at Etna, N. C.....	374	1926-29.
Little Tennessee River at Needmore, N. C.....	436	1944-
Little Tennessee River at Almond, N. C.....	451	1912-17.
Nantahala River near Rainbow Springs, N. C.....	51.9	1940-
Nantahala Lake (Reservoir) near Topton, N. C.....	91.0	1944- † m/
Nantahala River near Nantahala, N. C.....	133	1907-9*.
Nantahala River at Nantahala, N. C.....	144	1942-
Nantahala River at Wesser, N. C.....	158	1920-21.
Nantahala River at Almond, N. C.....	174	1912-17; 1921-43; (1912-23)l/
Little Tennessee River at Judson, N. C.....	664	1896-1945.
Tuckasegee River:		
West Fork Tuckasegee River:		
Thorpe Lake (Glenville Reservoir) at Glenville, N. C....	36.7	1944- † m/
Tuckasegee River at Tuckasegee, N. C.....	143	1934-

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Unpublished.

d/ In reports of U. S. Weather Bureau.

k/ In Tennessee Division of Geology, Bull. 34.

l/ In North Carolina Department of Conservation and Development, Bull. 34.

m/ Daily records in reservoir reports of Tennessee Valley Authority.

n/ Includes 3.8 sq mi without surface drainage.

o/ Includes 4.5 sq mi without surface drainage.

INDEX, PART 3, OHIO RIVER BASIN

Gaging station	Drainage area (sq mi)	Period of record
Tennessee River basin--continued		
Little Tennessee River--continued		
Tuckasegee River near East LaPort, N. C.....	200	1907-9; 1920-26.
Scott Creek above Sylva, N. C.....	50.7	1941-
Scott Creek at Sylva, N. C.....	55.0	1921-22*; 1928-41.
Scott Creek near Dillsboro, N. C.....	58.0	1907-8*.
Tuckasegee River at Dillsboro, N. C.....	347	1928-
Oconaluftee River at Cherokee, N. C.....	131	1921-49.
Oconaluftee River near Cherokee, N. C.....	179	1907-8*.
Oconaluftee River at Birdtown, N. C.....	184	1945-46; 1948-
Tuckasegee River at Governors Island, near Bryson City, N.C.	609	1896-97*.
Tuckasegee River at Bryson City, N. C.....	655	1897- ; (1899-1924)k/
Noland Creek near Bryson City, N. C.....	13.8	1935-
Hazel Creek at Proctor, N. C.....	44.4	1942-52.
Pontana Lake (Reservoir) at Pontana Dam, N. C.....	1,571	1944- † m/
Little Tennessee River at Pontana Dam (near Pontana), N. C..	1,571	1938-55.
Cheoah River at Millsaps, N. C.....	-	1907-8*.
Snowbird Creek near Robbinsville, N. C.....	42.0	1942-52.
Santeeclah Lake (Reservoir) near Robbinsville, N.C.....	176	1946- †; (1944-) m/
Cheoah River at Johnson, N. C.....	177	1912-18; 1920-27.
Cheoah River at Tapoco, N. C.....	215	1924-27.
Little Tennessee River at Calderwood, Tenn.....	1,862	1912-18; 1921-
Tellico River at (near) Tellico Plains, Tenn.....	118	1925-
Tellico River near Vonore, Tenn.....	271	1948-52.
Little Tennessee River at McGhee, Tenn.....	2,443	1905-13; 1918- ; (1904-24)k/
Tennessee River at Loudon, Tenn.....	b/12,220	1922-55; (1884-1922*)d/
Clinch River:		
Claypool Branch:		
Taylor Springs at Cedar Bluff, Va.....	-	1952-53**.
Clinch River at Cedar Bluff, Va.....	125	1944-46.
Clinch River at Richlands, Va.....	139	1946-
Little River at Wardell, Va.....	103	1949-52.
Will Brooks Spring at Wardell, Va.....	-	1949-52**.
Cedar Creek near Lebanon, Va.....	51.5	1952-
Thompson Creek near Coulwood, Va.....	14.0	1941-49.
Clinch River at Cleveland, Va.....	528	1920-
Guest River at Coeburn, Va.....	87.3	1949-
Stony Creek at Fort Blackmore, Va.....	41.4	1949-52.
Clinch River at Clinchport, Va.....	986	1907-9.
Copper Creek near Gate City, Va.....	106	1947-
Plank Camp Creek:		
Alley Valley Creek:		
Quillin Spring near Gate City, Va.....	-	1954-††
Clinch River at Speers Ferry, Va.....	1,126	1920-
North Fork Clinch River at Duffield, Va.....	23.1	1952-
Clinch River above Tazewell, Tenn.....	1,474	1935-
Clinch River near Tazewell, Tenn.....	1,482	1927-36; 1937-41*.
Clinch River near Lone Mountain, Tenn.....	1,548	1919-27
Powell River at Big Stone Gap, Va.....	112	1944-
South Fork Powell River at Big Stone Gap, Va.....	b/40	1944-47.
North Fork Powell River at Pennington Gap, Va.....	5/70	1944-51.
Powell River near Pennington Gap, Va.....	304	1920-31.
Powell River near Jonesville, Va.....	319	1931-
Powell River near Arthur, Tenn.....	685	1919- ; (1892-1919*)d/
Norris Lake (Reservoir) at Norris Dam, Tenn.....	2,912	1935-42; 1942- † m/
Clinch River below Norris Dam, Tenn.....	2,913	1936-
Clinch River near Lake City (Coal Creek), Tenn.....	2,921	1927-37; 1937-43*.
Coal Creek at Lake City (Coal Creek), Tenn.....	24.5	1932-34.
Hinds Creek:		
Buffalo Creek at Norris, Tenn.....	9.45	1947-50.
Clinch River at Clinton, Tenn.....	3,056	1918-27; 1943-48*††; (1903-24)k/ (1883-1948*)d/
Clinch River near Scarborough, Tenn.....	3,300	1941-
Clinch River near Wheat, Tenn.....	3,385	1936-41.
White Oak Creek at Oak Ridge National Laboratory near Oak Ridge, Tenn.....		2.08 1950-55.

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‡ Fragmentary record.

†† Unpublished.

** Discharge measurements only.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

k/ In Tennessee Division of Geology, Bull. 34.

m/ Daily records in reservoir reports of
Tennessee Valley Authority.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Tennessee River basin--continued		
Clinch River--continued		
White Oak Creek below Oak Ridge National Laboratory near Oak Ridge, Tenn.....	3.62	1950-53; 1955-
Melton Branch near Oak Ridge, Tenn.....	1.48	1955-
White Oak Creek at White Oak Dam near Oak Ridge, Tenn....	6.01	1953-
Emory River near Wartburg, Tenn.....	63.2	1934-
Obed River:		
Daddys (Daddy) Creek near Grassy Cove (Crab Orchard), Tenn.....	51.2	1925-30.
Daddys (Daddy) Creek near Crab Orchard, Tenn.....	93.5	1930-
Emory River at Deermont, Tenn.....	704	1920-27.
Emory River at Oakdale, Tenn.....	764	1929-
Emory River at Harriman, Tenn.....	798	1927-29.
White Creek near Glen Alice, Tenn.....	123	1934-55.
White Creek at Glen Alice, Tenn.....	135	1930-34.
Piney River at Spring City, Tenn.....	98.3	1927-31.
Watts Bar Lake (Reservoir) near Spring City, Tenn.....	b/17,310	1941- †
Sewee Creek near Decatur, Tenn.....	117	1934-
Tennessee River at Breedenton, Tenn.....	b/17,460	1934-40; 1940-48* ††.
Richland Creek near (at) Dayton, Tenn.....	50.2	1927-31; 1934-55.
Hiwassee River at Presley, Ga.....	45.5	1941-
Hightower Creek near Presley, Ga.....	32.4	1941-45.
Shooting Creek near Hayesville, N. C.....	37.6	1922-24; 1942-45; 1946-55.
Chatuge Lake (Reservoir) near Hayesville, N. C.....	189	1942- † m/
Hiwassee River (near Hayesville) below Chatuge Dam, near Hayesville, N. C.....	190	1907-9*; 1922-23*; 1942-
Tusquitee Creek near Hayesville, N. C.....	42.5	1907-9*.
Hiwassee River below Hayesville, N. C.....	252	1934-45.
Hiwassee River above Murphy, N. C.....	406	1939-
Hiwassee River at Murphy, N. C.....	421	1896-1917; 1918-40; (1897-1924)k/; (1897-1923)l/
Valley River at Andrews, N. C.....	41.8	1946-47.
Valley River at Tomotla, N. C.....	104	1904-9; 1914-17; 1918-
Nottely River near Blairsville, Ga.....	74.8	1942-
Coosa Creek near Blairsville, Ga.....	21.1	1941-45.
Youngcane Creek near Youngcane, Ga.....	27.6	1942-45.
Ivylog Creek near Ivylog, Ga.....	16.7	1942-45.
Nottely River near Ivylog, Ga.....	191	1936-42.
Nottely Lake (Reservoir) near Ivylog, Ga.....	214	1942- † m/
Nottely River at Nottely Dam, near Ivylog, Ga.....	215	1942-
Nottely River near Ranger, N. C.....	272	1901-5; 1914-17; 1918-45.
Hiwassee Lake (Reservoir) at Hiwassee Dam, N. C.....	968	1939- † m/
Hiwassee River at Hiwassee Dam (near Vests), N. C.....	968	1934-43.
Apalachia Lake (Reservoir) at Apalachia Dam, N. C.....	1,018	1943- † m/
Turtletown Creek at Turtletown, Tenn.....	26.9	1934-
Hiwassee River near McFarland, Tenn.....	1,136	1942-
Hiwassee River (at) near Reliance, Tenn.....	1,223	1900-1913; 1919-48; 1948-52*††; (1900-1924)k/
Toccoa River (head of Ocoee River) at Butts Bridge, near Dial, Ga.....	118	1907-8
Toccoa River near Dial, Ga.....	117	1913-
Blue Ridge Lake (Reservoir) near Blue Ridge, Ga.....	232	1930- † m/
Toccoa River near Blue Ridge (Morganton), Ga.....	233	1898-1903;k/; 1913-
Ocoee River at Copperhill (McCays), Tenn.....	352	1903-13; 1918-25*; 1942- ; (1903-13; 1914-24*)k/
Fightingtown Creek at McCaysville, Ga.....	70.9	1942-
Davis Mill Creek (Mill Creek) at Copperhill, Tenn.....	5.16	1940-42; 1949-
North Potato Creek (Potato Creek) near Ducktown, Tenn..	13.0	1934-
Ocoee River at McHarg, Tenn.....	447	1917-42.
Brush Creek near Ducktown, Tenn.....	14.4	1934-42.
Ocoee No. 3 Lake (Reservoir) near Ducktown, Tenn.....	496	1942- † m/
Ocoee River at Emf, Tenn.....	524	1913-
Ocoee Lake (evaporation) at Parksville, Tenn.....	-	1924-28.
Parksville Lake (Reservoir) at Parksville, Tenn.....	595	1914- † m/
Ocoee River at Parksville, Tenn.....	595	1911-16; 1921-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary records.

†† Unpublished.

b/ Approximately.

k/ In Tennessee Division of Geology, Bull. 34.

l/ In North Carolina Department of Conservation and Development, Bull. 34.

m/ Daily records in reservoir reports of Tennessee Valley Authority.

INDEX, PART 3, OHIO RIVER BASIN

Gaging station	Drainage area (sq mi)	Period of record
Tennessee River basin--continued		
Hiwassee River above Charleston, Tenn.....	2,001	1953-
Oostanula Creek near Sanford, Tenn.....	57.0	1954-
Hiwassee River at Charleston, Tenn.....	2,298	1899-1902; 1920-40; 1940-49*††; 1953- *††; (1893-1943*)d/; (1898-1903; 1919-24)k/
Chickamauga Lake (Reservoir) near Chattanooga, Tenn.....	b/20,790	1939- †
South Chickamauga Creek below Georgia-Tennessee State Line.	249	1952-
South Chickamauga Creek (Chickamauga Creek) near Chickamauga, Tenn.....	428	1928-
Tennessee River at Chattanooga, Tenn.....	b/21,400	1874-1913; 1915-30; 1936- ; (1874-1924)k/
Chattanooga Creek near Flintstone, Ga.....	50.6	1950-
Lookout Creek near Wildwood, Ga.....	165	1945-46.
Hales Bar Lake (Reservoir) near Chattanooga, Tenn.....	b/21,790	1914- †
Tennessee River at Hales Bar Dam, near Chattanooga, Tenn.....	b/21,800	1930-
Tennessee River at Shellmound, Tenn.....	b/21,830	1839-48*.
Sequatchie River near Whitwell, Tenn.....	384	1920-
Little Sequatchie River at Sequatchie, Tenn.....	116	1932-34
Tennessee River at Widows Bar, near Bridgeport, Ala.....	b/22,820	1938-40*; 1927-38*††; 1941- *††.
Tennessee River near Scottsboro, Ala.....	b/23,430	1935-39; 1939-48*.
Short Creek near Albertville, Ala.....	91.6	1945-53.
Tennessee River at Guntersville, Ala.....	b/24,340	1930-38.
Guntersville Lake (Reservoir) near Guntersville, Ala.....	b/24,450	1938- †
Paint Rock River near Woodville, Ala.....	320	1935-
Flint River near Chase, Ala.....	342	1930-
Tennessee River at Whitesburg, Ala.....	b/25,610	1937-
Indian Creek:		
Huntsville Spring at Huntsville, Ala.....	-	1928-32.
Flint Creek near Falkville, Ala.....	86.3	1952-
West Fork Flint Creek near Oakville, Ala.....	87.6	1952-
Tennessee River at Decatur, Ala.....	b/26,900	1924-36; 1936-40*; 1940* ††; (1875-*)d/
Elk River near Pelham, Tenn.....	65.6	1951-
Bradley Creek near Prairies Plains, Tenn.....	41.3	1951-
Woods Reservoir at Elk River Dam near Estill Springs, Tenn.	263	1952-†
Elk River at Estill Springs, Tenn.....	282	1920-
Boiling Fork Creek at Cowan, Tenn.....	20.2	1932; 1932-33 ††.
Boiling Fork Creek at Winchester, Tenn.....	77.1	1932-34.
Mulberry Creek:		
East Fork Mulberry Creek at Lynchburg, Tenn.....	23.1	1932-33.
West Fork Mulberry Creek at Mulberry, Tenn.....	41.2	1953-
Elk River above Fayetteville, Tenn.....	827	1934-
Elk River near Fayetteville, Tenn.....	897	1925-34.
Bradshaw Creek at Frankewing, Tenn.....	36.5	1954-
Richland Creek:		
Weakley Creek near Bodenham, Tenn.....	24.4	1955-
Richland Creek near Pulaski, Tenn.....	366	1934-
Elk River near Prospect, Tenn.....	1,784	1934-
Elk River near Elkmont, Ala.....	1,843	1904-8; 1919-34.
Elk River near Rogersville, Ala.....	2,239	1927-35.
Wheeler Lake (Reservoir) at Wheeler Dam, Ala.....	b/29,590	1936- †
Big Nance Creek at Courtland, Ala.....	166	1935-40; 1945-
Big Nance Creek at Red Bank, Ala.....	188	1935-40.
Shoal Creek (Beeler Fork at Lawrenceburg), above Little Shoal Creek at Lawrenceburg, Tenn.....	27.1	1932-34.
Shoal Creek at Lawrenceburg, Tenn.....	55.3	1932-34.
Shoal Creek at Iron City, Tenn.....	348	1925-
Wilson Lake (Reservoir) near Florence, Ala.....	b/30,750	1926- †
Tennessee River at Florence, Ala.....	b/30,810	1871-94*; 1894-
Cypress Creek near Florence, Ala.....	209	1934-53.
Spring Creek:		
Tuscumbia Spring at Tuscumbia, Ala.....	-	1928-30.
Tennessee River at Waterloo, Ala.....	b/31,550	1938-48*.
Tennessee River at Riverton, Ala.....	b/31,560	1926-38*.
Bear Creek (Big Bear River) near Red Bay, Ala.....	262	(1913-20)k/; 1918-20.
Bear Creek at Bishop, Ala.....	667	1926-32; 1933-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** Unpublished.

b/ Approximately.

d/ In reports of U. S. Weather Bureau.

k/ In Tennessee Division of Geology, Bull. 34.

<u>Gaging station</u>	<u>Drainage area</u> (sq mi)	<u>Period of record</u>
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Tennessee River at Savannah, Tenn.....	b/33,140	1930-
Horse Creek near Savannah, Tenn.....	114	1929-34.
Tennessee River at Perryville, Tenn.....	b/34,550	1931-32; 1936- *††
Duck River near Manchester, Tenn.....	55.2	1932-34.
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Duck River below Manchester, Tenn.....	107	1934-
Duck River at Normandy, Tenn.....	208	1920-31.
Garrison Fork at Fairfield, Tenn.....	66.3	1953-
Wartrace Creek at Bell Buckle, Tenn.....	16.3	1953-
Duck River near Shelbyville, Tenn.....	481	1934-
Big Rock Creek:		
Lewisburg Lake (on Turner Branch) near Lewisburg, Tenn.	1.2	1933-38*.
Big Rock Creek at Lewisburg, Tenn.....	24.9	1953-
Duck River at Columbia, Tenn.....	1,208	(1886- *)*d/;(1904-8; 1920-24)k/; 1921-
Rutherford Creek near Carters Creek, Tenn.....	68.8	1953-
Big Bigby Creek near Sandy Hook, Tenn.....	17.5	1953-
Big Bigby Creek near Mt. Pleasant, Tenn.....	25.8	1953
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Duck River at Centerville, Tenn.....	2,048	1919-55.
Piney River at Vernon, Tenn.....	193	1925-
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Buffalo River near Flat Woods, Tenn.....	447	1920-
Buffalo River near Lobelville, Tenn.....	707	1927-
Tennessee River at and near Johnsonville, Tenn.....	b/38,520	1875-89*; 1889-1944; 1927- 1944-55* ††
Trace Creek at Waverly, Tenn.....	20.1	1932-33.
Tennessee River at Danville, Tenn.....	b/38,970	1931-32.
Big Sandy River at Bruceton, Tenn.....	205	1929-
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Tennessee River near Buchanan, Tenn.....	b/39,730	1935-43.
Tennessee River at Shannon Dam Site, near Murray, Ky.....	b/39,780	1931-35.
Tennessee River at Aurora Landing, Ky.....	b/40,010	1930-31.
Kentucky Lake (Reservoir) at Gilbertsville, Ky.....	b/40,200	1944- †
Tennessee River near Paducah, Ky.....	b/40,200	1939-
East Fork Clarks River at Murray, Ky.....	89.7	1951-
East Fork Clarks River near Benton, Ky.....	227	1938-

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† Monthly figures of discharge or contents only.

* Fragmentary record.

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Raccoon Creek, Ohio (tributary to Ohio River).....	8	Skillet Fork, Ill.....	15
Raccoon Creek, Ohio (tributary to South Fork Licking River).....	7	Skin Creek, W. Va.....	3
Raccoon Creek, Pa.....	5	Slippery Rock Creek, Pa.....	5
Radner Lake, Tenn.....	17	Snowbird Creek, N. C.....	20
Range Creek, Ill.....	14	South Chickamauga Creek, Ga., Tenn.....	22
Red River, Ky.....	11	South Eikhorn Creek, Ky.....	12
Red River, Tenn.....	17	South Fork or Branch. See name of main stream.	
Red River, Sulphur Fork Tenn.....	17	South Holston Lake, Tenn.....	18
Redbank Creek, Pa.....	2	South Toe River, N. C.....	18
Redstone Creek, Pa.....	4	Spring Creek, Ala.....	22
Reed Creek, Va.....	7	Spring Creek, Tenn.....	16
Reed Creek, South Fork, Va.....	7	Steer Creek, W. Va.....	7
Reedy Creek, W. Va.....	7	Steve Keesling Spring, Va.....	18
Rich Creek, W. Va.....	8	Stewart Creek, Tenn.....	16
Richland Creek, N. C.....	17	Stillwater Creek, Ky.....	11
Richland Creek, Tenn. (tributary to Cumberland River).....	17	Stillwater Creek, Ky.....	11
Richland Creek, Tenn. (tributary to Elk River).....	22	Stillwater Creek, Ohio.....	6
Richland Creek, Tenn. (tributary to Tennessee River).....	21	Stillwater River, Ohio.....	11
Roan Creek, Tenn.....	18	Stoner Creek, Ky.....	10
Roaring River, Tenn.....	16	Stones River, Tenn.....	16
Rockcastle River, Ky.....	16	Stones River, East Fork, Tenn.....	16
Rocky Fork, Ohio (tributary to Black Fork).....	6	Stones River, West Fork, Tenn.....	16
Rocky Fork, Ohio (tributary to Paint Creek).....	10	Stony Creek, Pa.....	3
Rolling Fork, Ky.....	12	Stony Creek, Va.....	20
Rose Creek, Ky.....	15	Stony Creek, W. Va.....	8
Rough River, Ky.....	13	Stucker Creek, Ind.....	14
Rough River, North Fork, Ky.....	13	Stump Creek, Pa.....	2
Russell Creek, Ky.....	12	Sugar Creek, Ill.....	15
Russell Fork, Va.....	9	Sugar Creek, Ind.....	14
Rutherford Creek, Tenn.....	23	Sugar Creek, Ohio.....	6
Salamonie River, Ind.....	13	Sugar Creek, Pa.....	2
Salem Fork, W. Va.....	4	Sugar Run, Pa.....	5
Salem Fork subwatershed No. 11A, W. Va..	4	Sulphur Fork Red River, Tenn.....	17
Saline River, Ill.....	15	Sunday Creek, Ohio.....	7
Saline River, Middle Fork, Ill.....	15	Swannanoa River, N. C.....	17
Salt Creek, Ind.....	15	Swannanoa River, North Fork, N. C.....	17
Salt Creek, North Fork, Ind.....	15	Symes Creek, Ohio.....	2
Salt Creek, Ohio (tributary to Muskingum River).....	7	Talawanda (Fourmile) Creek, Ohio.....	11
Salt Creek, Ohio (tributary to Scioto River).....	10	Tappan Reservoir, Ohio.....	6
Salt Fork Vermillion River, Ill.....	13	Tar Hollow Creek, Ohio.....	10
Salt Fork, West Branch, Ill.....	13	Taylor Springs, Va.....	20
Salt River, Ky.....	12	Tellico River, Tenn.....	20
Sand Creek, Ind.....	14	Tenmile Creek, W. Va.....	4
Sand Run, W. Va.....	3	Tenmile Creek, South Fork, Pa.....	4
Sandy Creek, Ohio.....	6	Tennessee River, Ala.....	22
Sandy Creek, Pa.....	2	Tennessee River, Ky.....	23
Sandymush Creek, N. C.....	17	Tennessee River, N. C.....	17
		Tennessee River, Tenn.....	19-23
		Thompson Creek, Va.....	20
		Thorpe Lake, N. C.....	19
		Tionesta Creek, Pa.....	2
		Tionesta Creek, South Branch, Pa.....	2
		Tionesta Creek Reservoir, Pa.....	2
		Tippecanoe River, Ind.....	13
		Toccoa River, Ga.....	21

	Page		Page
Todd Fork, Ohio.....	10	Wains Creek, Ky.....	15
Tom Jenkins Reservoir, Ohio.....	7	West Baya Fork, Ky.....	13
Touby Run, Ohio.....	7	West Flint Creek, Ala.....	22
Trace Creek, Tenn.....	23	West Fork or Branch. <u>See</u> name of main stream.	
Tradewater River, Ky.....	15	West Fork River, W. Va.....	3-4
Triplett Creek, Ky.....	10	West Harpeth River, Tenn.....	17
Troublesome Creek, Ky.....	11	Wheeler Lake, Ala.....	22
Tuckasegee River, N. C.....	19-20	Wheeling Creek, W. Va.....	6
Tuckasegee River, West Fork, N. C.....	19	Whetstone Creek, Ohio.....	9
Tug Fork, W. Va.....	9	White Creek, Tenn.....	21
Turnbull Creek, Tenn.....	17	White Oak Creek, Tenn. (tributary to Clear Fork River).....	10
Turtle Creek, Pa.....	4	White Oak Creek, Tenn. (tributary to Clinch River).....	20-21
Turtletown, Creek, Tenn.....	21	White River, Ind.....	14-15
Tuscarawas River, Ohio.....	6	White River, East Fork, Ind.....	14-15
Tuscumbia Spring, Ala.....	22	White River, West Fork, Ind.....	14
Tusquitee Creek, N. C.....	21	Whiteoak Creek, Ohio.....	10
Twelvepole Creek, W. Va.....	9	Whitewater River, Ind.....	11
Twin Creek, Ohio.....	11	Whitewater River, East Fork, Ind.....	11
Two Lick Creek, Pa.....	3	Wildcat Creek, Ind.....	13
Tygart Reservoir, W. Va.....	3	Wildcat Creek, South Fork, Ind.....	13
Tygart River, W. Va.....	3	Will Brooks Spring, Va.....	20
Tygarts Creek, Ky.....	9	Williams River, W. Va.....	8
Unnamed branch, Va.....	20	Willow Creek, Ohio.....	5
Valley River, N. C.....	21	Wills Creek, Ohio.....	7
Vermilion River, Ill.....	13-14	Wills Creek Reservoir, Ohio.....	7
Vermilion River, Salt Fork, Ill.....	13	Wilson Lake, Ala.....	22
Vernon Fork, Ind.....	15	Wolf Creek, Ohio.....	11
Vernon Fork, North Fork, Ind.....	15	Wolf Creek, Va.....	8
Wabash Creek, Va.....	8	Wolf Creek Reservoir, Ky.....	16
Wabash River, Ill.....	15	Wolf River, Tenn.....	16
Wabash River, Ind.....	13-15	Wood Creek, Ky.....	16
Wabash Spring, Va.....	8	Woods Reservoir, Tenn.....	22
Wakatomika Creek, Ohio.....	7	Yellow Creek, Ky.....	16
Walhonding River, Ohio.....	6	Yellow Creek, Ohio.....	5
Walker Creek, Va.....	8	Youghiogheny River, Md., Pa.....	4
Wartrace Creek, Tenn.....	23	Youghiogheny River Reservoir, Pa.....	4
Watauga Lake, Tenn.....	19	Youngcane Creek, Ga.....	21
Watauga River, N. C., Tenn.....	19	Youngs Creek, Ind.....	14
Watauga River, Tenn.....	19		
Watts Bar Lake, Tenn.....	21		
Weakley Creek, Tenn.....	22		

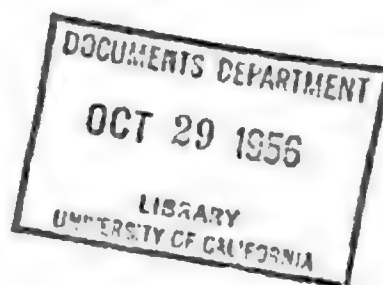
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GEOLOGICAL SURVEY CIRCULAR 384



INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955

PART 4.—ST. LAWRENCE RIVER BASIN



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 384

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 4.—ST. LAWRENCE RIVER BASIN

By C. E. Knox

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 4.—ST. LAWRENCE RIVER BASIN

By C. E. Knox

EXPLANATION

This index lists the streamflow and reservoir stations in the St. Lawrence River basin for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indentation and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indentation in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 13 to 15.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Superior</u>		
Pigeon River above mouth of Arrow River, Minn.....	256	1924-27.
Pigeon River at Middle Falls, below International Bridge (at International Bridge), Minn.....	600	(1921-23) ^b /; (1923- 32) ^c /; 1924-
Brule River at mouth, near Hoveland, Minn.....	248	1911*.
Devil Track River at mouth, near Grand Marais, Minn.....	77	1911*.
Cascade River at mouth, near Grand Marais, Minn.....	111	1911*.
Poplar River at Lutsen, Minn.....	114	1911-12*; 1913-17; 1928-47; 1952-
Cross River at Schroeder, Minn.....	a/91	1931-32.
Baptism River:		
Egge Lake near Finland, Minn.....	-	1938-40*.
Lepannen Lake at Finland, Minn.....	-	1938-40*.
Baptism River near Beaver Bay, Minn.....	140	1928-29; 1930-47; 1949-
Beaver Creek (Beaver Bay River) at Beaver Bay, Minn.....	126	1911-14; 1928-31 ^d /.
St. Louis River:		
Partridge River:		
Second Creek near Aurora, Minn.....	-	1955-
Partridge River near Aurora, Minn.....	156	1942-
St. Louis River near Aurora, Minn.....	312	1942-
Embarrass River at Embarrass, Minn.....	93.8	1942-
Esquagama Lake near Biwabik, Minn.....	-	1937-40*.
Embarrass River near McKinley, Minn.....	-	1953-
Otter River:		
Ely Lake near Eveleth, Minn.....	-	1939-40*.
West Two River near Iron Junction, Minn.....	-	1953-
West Swan River:		
East Swan River near Toivola, Minn.....	112	1953-
Swan River near Toivola, Minn.....	254	1952-
Whiteface River at Meadowlands, Minn.....	453	1909-12.
Whiteface River below Meadowlands, Minn.....	453	1912-17.
Stoney Brook:		
Perch Lake near Sawyer, Minn.....	-	1938-40*.
Cloquet River:		
Pequaywan Lake near Brimson, Minn.....	-	1938-40*.
Smith Lake near Brimson, Minn.....	-	1939-40*.
Cloquet River at Independence, Minn.....	a/750	1909-17.
St. Louis River near Cloquet, Minn.....	3,400	1903*.
St. Louis River at Scanlon (at Thomson), Minn.....	3,570	1909-15; 1950-
Amnicon Lake (head of Amnicon River) near South Range, Wis...	5	1936-*
Amnicon River near Amnicon Falls, Wis.....	102	1914-16.
Bois Brule River at Brule, Wis.....	113	1943-
Bois Brule (Brule) River near Brule, Wis.....	153	1914-17.
Bad River at Mellen, Wis.....	101	1948-55.
Bad River near Odanah, Wis.....	611	1914-22; 1948-
White River near Ashland, Wis.....	269	1948-
Montreal River at Ironwood, Mich.....	a/66	1918-22; 1924-25; 1949-54.
Montreal River near Kimball, Wis.....	a/109	1924-25.
West Branch Montreal River at Gile, Wis.....	a/78	1918-25; 1942-47.
West Branch Montreal River near Kimball, Wis.....	a/96	1924-25.
Montreal River near Saxon, Wis.....	a/281	1938-
Black River at Ramsay, Mich.....	82	1924-25.
Black River near Bessemer, Mich.....	202	1954-
Presque Isle River at Marenisco, Mich.....	175	1945-
Presque Isle River near Tula, Mich.....	260	1945-
Iron River near White Pine, Mich.....	100	1952-
Middle Branch Ontonagon River near Paulding, Mich.....	175	1942-
Bond Falls Reservoir:		
Bond Falls Canal near Paulding, Mich.....	-	1942-
Bond Falls Reservoir near Paulding, Mich.....	210	1942-+
Middle Branch Ontonagon River near Trout Creek, Mich.....	225	1942-
East Branch Ontonagon River near Mass, Mich.....	265	1942-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of Dominion Water and Power Bureau.

c/ In House Document 92, 73rd Congress of the United States, 1st Session.

d/ In House Document 226, 72nd Congress of the United States, 1st Session.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Superior--Continued</u>		
Middle Branch Ontonagon River near Rockland, Mich.....	a/670	1942-
West Branch Ontonagon River near Bergland, Mich.....	a/160	1942-
South Branch Ontonagon River:		
Mamie Lake near Land O' Lakes, Wis.....	18	1938-40*.
Big Lake near Land O' Lakes, Wis.....	32	1938-45*.
Cisco Branch Ontonagon River at		
Cisco Lake Outlet, Mich.....	a/50	1944-
Cisco Branch Ontonagon River near Watersmeet, Mich.....	57	1942-44.
Fulmer Lake near Land O' Lakes, Wis.....	15	1938-40*.
Tenderfoot Lake near Land O' Lakes, Wis.....	19	1938-40*.
South Branch Ontonagon River at Ewen, Mich.....	320	1942-
Ontonagon River near Rockland, Mich.....	a/1,290	1942-
Sturgeon River near Sidnaw (at Old Timber Dam), Mich.....	155	1912-15; 1943-
Perch River near Sidnaw, Mich.....	60	1912-15.
Sturgeon River near Alston (at Prickett Dam), Mich.....	346	(1932-41)e/; 1947-
Sturgeon River near Baraga (at Highway 35 Bridge), Mich.....	374	(1927-31)e/; 1942-47.
Otter River near Elo, Mich.....	175	1942-
Sturgeon River near Arnheim, Mich.....	680	1942-
Dead River near Negaunee, Mich.....	138	1902-3.
Dead River at Forestville, Mich.....	158	1898-1902.
Carp River near Marquette, Mich.....	86	1902-3.
Tahquamenon River at Newberry, Mich.....	200	1934-38.
Tahquamenon River near Tahquamenon Paradise, Mich.....	790	1953-
<u>Streams tributary to Lake Michigan</u>		
Black River near Garnet, Mich.....	a/28	1951-
South Manistique Lake Outlet (head of Manistique River)		
at Curtis, Mich.....	a/44	1942-44.
North Manistique Lake Outlet at Helmer, Mich.....	a/15	1942-44.
Manistique River near Germfask, Mich.....	a/120	1942-50.
Fox River at Seney, Mich.....	a/107	1942-44.
East Branch Fox River near Germfask, Mich.....	a/104	1942-44.
Holland Creek near Seney, Mich.....	a/13	1938-42.
Manistique River at Germfask, Mich.....	341	1938-
Goose Pen Outlet at Germfask, Mich.....	-	1939-41.
Grays Creek near Germfask, Mich.....	a/36	1938-40.
Pine Creek near Germfask, Mich.....	a/11	1938-40.
Sand Creek near Germfask, Mich.....	a/6	1938-40.
Driggs River near Seney, Mich.....	a/70	1938-42.
Walsh Creek near Seney, Mich.....	a/12	1938-42.
Driggs River near Germfask, Mich.....	a/114	1938-41.
Marsh Creek near Shingleton, Mich.....	a/20	1938-42.
Marsh Creek near Germfask, Mich.....	a/15	1938-41.
Duck Creek near Blaney, Mich.....	a/92	1938-54.
Manistique River near Blaney, Mich.....	704	1938-
West Branch Manistique River:		
Creighton River near Shingleton, Mich.....	a/35	1938-42.
West Branch Manistique River near Manistique, Mich.....	322	1938-
Manistique River near Manistique, Mich.....	a/1,100	1938-
Indian River near Manistique, Mich.....	302	1938-
Sturgeon River near St. Jacques, Mich.....	167	1950-51.
Middle Branch Escanaba River near Ishpeming, Mich.....	128	1954-
East Branch Escanaba River at Gwinn, Mich.....	125	1954-
Escanaba River at Cornell (near Escanaba), Mich.....	870	1903-12; 1913-15*; 1950-
Ford River near Hyde, Mich.....	450	1954-
Brule River (head of Menominee River):		
Iron River near Iron River (at Riverton Mine), Mich.....	a/65	1900-3; 1904-5*.
Iron River at Caspian, Mich.....	a/84	1948-
Brule River near Florence, Wis.....	380	1914-16; 1944-
Paint River at Crystal Falls, Mich.....	616	1944-
Paint River near Alpha, Mich.....	644	1952-53; 1953-††
Michigamme River near Crystal Falls, Mich.....	670	1944-
Menominee River near Florence, Wis.....	-	1950-
Menominee River at Twin Falls, near Iron Mountain, Mich.....	a/1,790	1914-
Pine River near Florence, Wis.....	500	1914-23.
Pine River at Pine River powerplant, near Florence, Wis....	528	1923-
Menominee River near Iron Mountain		
(at lower Quinnesec Falls), Mich.....	a/2,420	1898-99; 1902-14.
Sturgeon River near Foster City, Mich.....	244	1954-

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

a/ Approximately.

e/ In files of Corps of Engineers.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Michigan--Continued</u>		
Menominee River near Pembine, Wis.....	a/3,240	1949-
Pike River at Amberg, Wis.....	253	1914-
Menominee River below (at) Koss, Mich.....	a/3,790	1907-8; 1909+; (1911-13)f/; 1913-
Menominee River near McAllister, Wis.....	a/4,020	1945-
Peshtigo River at High Falls, near Crivitz, Wis.....	571	1912-40; 1941-††
Peshtigo River near Crivitz, Wis.....	670	1908-9*.
Peshtigo River at Crivitz, Wis.....	-	1906*.
Peshtigo River at Peshtigo, Wis.....	1,124	1953-
Oconto River:		
Wheeler Lake near Lakewood, Wis.....	a/2	1936-*
Boot Lake near Townsend, Wis.....	a/1.5	1936-*
Oconto River near Gillett, Wis.....	678	1906-9; 1914-
Oconto River at Stiles, Wis.....	-	1906*.
Suamico River at Suamico, Wis.....	62	1951-52.
Fox River:		
Silver Lake Outlet:		
Silver Lake at Portage, Wis.....	a/1	1936-*
Grand River:		
Little Green Lake near Markesan, Wis.....	a/5	1936-*
Fox River at Berlin, Wis.....	1,430	1898-
Fox River at Omro, Wis.....	-	1902-3*.
Wolf River:		
Swamp Creek:		
Lucerne (Stone) Lake near Crandon, Wis.....	a/3	1936-38*.
Wolf River near White Lake, Wis.....	482	1935-37.
Wolf River above West Branch Wolf River, Wis.....	633	1928-
West Branch Wolf River at Neopit, Wis.....	108	1911-17.
West Branch Wolf River near Keshena, Wis.....	170	1928-31.
Wolf River at Keshena Falls (at Keshena), Wis.....	812	1907-9; 1911-
Wolf River at White House Bridge, near Shawano, Wis.....	-	1906-7*.
Wolf River at Darrows Bridge, near Shawano, Wis.....	-	1906*.
Embarrass River near Embarrass, Wis.....	395	1919-
Wolf River at New London, Wis.....	a/2,240	(1896-1913)f/; 1913-
Wolf River at Northport, Wis.....	-	1905*.
Little Wolf River at Royalton, Wis.....	485	1914-
Little Wolf River near Northport, Wis.....	-	1907-10*.
Waupaca River near Waupaca (Weyauwega), Wis.....	305	1916-
Wolf River at Winneconne, Wis.....	-	1902-3*.
Fox River at Oshkosh, Wis.....	-	1902*.
Lake Winnebago at Oshkosh, Wis.....	6,030	(1857-1938*)e/; 1938-*
West Branch Fond du Lac River at Fond du Lac, Wis.....	a/88	1903*; 1939-54
East Branch Fond du Lac River at Fond du Lac, Wis.....	a/75	1903*; 1939-54
De Neveu Creek:		
Lake de Neveu near Fond du Lac, Wis.....	a/2	1936-*
Fox River at Rapide Croche Dam, near Wrightstown, Wis.....	a/6,150	1896-1917+; 1918-
Fox River at Wrightstown, Wis.....	a/6,210	1902-4*.
Sheboygan River:		
Unnamed Creek:		
Cedar Lake (head of Pigeon River) near Kiel, Wis.....	a/3	1936-42*; 1945-*
Sheboygan River at (near) Sheboygan, Wis.....	403	1916-24; 1950-
Milwaukee River:		
Cedar Creek near Cedarburg, Wis.....	113	1930-
Milwaukee River at (near) Milwaukee, Wis.....	661	1914-
Little Calumet River (western portion, head of Calumet River):		
Hart ditch at Munster, Ind.....	69.2	1942-
Thorn Creek at Glenwood, Ill.....	25.4	1949-
Deer Creek near Chicago Heights, Ill.....	24.4	1948-
Butterfield Creek at Flossmoor, Ill.....	22.9	1948-
North Creek:		
Lansing ditch near Lansing, Ill.....	a/8.3	1948-
North Creek near Lansing, Ill.....	18.2	1948-
Thorn Creek at Thornton, Ill.....	106	1948-
Little Calumet River at South Holland, Ill.....	-	1947-
Little Calumet River at Harvey, Ill.....	-	1916-33.
Midlothian Creek at Oak Forest, Ill.....	12.7	1950-
Calumet River:		
Wolf Lake at Chicago, Ill.....	-	1939-*

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

a/ Approximately.

e/ In files of Corps of Engineers.

f/ House Document 141, 72nd Congress, 1st Session.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Michigan--Continued</u>		
Burns ditch:		
Deep River at Lake George Outlet at Hotart, Ind.....	125	1947-
Burns ditch at Gary, Ind.....	160	1943-50; 1950-****
Little Calumet River (eastern portion) at Porter, Ind. <u>g</u> /...	62.9	1945-
Salt Creek near McCool, Ind.....	78.7	1945-
Little Calumet River near McCool, Ind.....	149	1943-45†
Gallen River near New Troy, Mich.....	<u>a</u> /47	1945-47.
East Branch Gallen River near New Troy, Mich.....	19.2	1945-47.
St. Joseph River:		
East Branch Coldwater River at Coldwater, Mich.....	60	1937-
St. Joseph River at Mendon, Mich.....	844	1902-5*.
St. Joseph River at Three Rivers, Mich.....	<u>a</u> /1,320	1953-
Fawn River at Orland, Ind.....	81.4	1943-47.
Fawn River near White Pigeon, Mich.....	-	1903-4*.
St. Joseph River at Mottville, Mich.....	<u>a</u> /1,660	1923-
Pigeon Creek at Hogback Lake Outlet, near Angola (near Flint), Ind.....	102	1945-
Christiana Creek at Elkhart, Ind.....	119	1946-52.
Elkhart River at Goshen, Ind.....	580	(1924-27) <u>h</u> /; 1931-
St. Joseph River at Elkhart, Ind.....	3,339	1947-
St. Joseph River at Niles, Mich.....	<u>a</u> /3,620	1930-
St. Joseph River at Berrien Springs (at and near Buchanan), Mich.....	4,061	1901-6; (1909-31) <u>†</u> 1/; 1951-
Paw Paw River at Riverside, Mich.....	391	1951-
Kalamazoo River:		
Reed's Springs near Albion, Mich.....	-	1904-6****.
Kalamazoo River at Marshall, Mich.....	449	1948-
Battle Creek at Charlotte, Mich.....	<u>a</u> /67	1948-55.
Battle Creek at Bellevue, Mich.....	178	1948-53.
Battle Creek at Battle Creek, Mich.....	241	1930-31; 1932-
Kalamazoo River near Battle Creek, Mich.....	849	1937-
Kalamazoo River at Comstock, Mich.....	<u>a</u> /1,010	1931; 1932-
Portage Creek at Kalamazoo, Mich.....	<u>a</u> /48	1947-
Gun River at dam near Shelbyville, Mich.....	<u>a</u> /30	1946-47.
Gun River near Martin, Mich.....	<u>a</u> /55	1946-47.
Kalamazoo River near Allegan, Mich.....	<u>a</u> /1,470	1901-7.
Kalamazoo River near Fennville (near Allegan) (at Calkins Bridge near Allegan) (at Calkins Dam near Allegan), Mich.....	<u>a</u> /1,600	1929-36; 1937-
Grand River at Jackson, Mich.....	174	1935-
Portage River below Little Portage Lake, near Munith, Mich.	<u>a</u> /55	1944-
Orchard Creek at Munith, Mich.....	<u>a</u> /49	1944-
Portage River near Munith, Mich.....	118	1944-46.
Grand River near Eaton Rapids, Mich.....	661	(1905-28) <u>1</u> /; 1950-
Cedar River:		
Deer Creek near Danville, Mich.....	16.3	1954-
Sloan Creek near Williamston, Mich.....	9.34	1954-
Cedar (Red Cedar) River at East Lansing (Agricultural College), Mich.....	355	1902-3; (1911-19; 1920-28**) <u>m</u> /; 1931-
Grand River at Lansing (North Lansing), Mich.....	<u>a</u> /1,230	1901-6; (1907-10**; 1911-19; 1920- 28**) <u>m</u> /; 1934-
Sebewa Creek near Sunfield, Mich.....	24.1	1954-
Grand River at Portland, Mich.....	1,385	(1907-28) <u>1</u> /; 1952-
Lookingglass River near Eagle, Mich.....	281	1944-
Maple River at Maple Rapids, Mich.....	434	1944-
Fish Creek near Carson City, Mich.....	145	1936-38.
Grand River at Ionia, Mich.....	<u>a</u> /2,840	(1907-28) <u>1</u> /; 1931; 1951-
Flat River at Smyrna, Mich.....	528	1950-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** High water records only.

**** Weekly gage heights and discharge only.

a/ Approximately.

g/ Flow from eastern headwaters of Little Calumet River is diverted to Lake Michigan through Burns ditch.

h/ In reports of Indiana Department of Conservation.

1/ House Document 94, 73rd Congress, 1st Session.

1/ In reports of U. S. Weather Bureau, gage heights during high water only.

m/ In reports of U. S. Weather Bureau, gage heights only.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Michigan--Continued</u>		
<u>Grand River--Continued</u>		
Thornapple River:		
Quaker Brook near Nashville, Mich.....	7.60	1954-
Thornapple River near Hastings, Mich.....	385	1944-
Thornapple River near Caledonia, Mich.....	773	1930-38; 1951-
Rogue River near Rockford, Mich.....	234	1952-
Grand River at Grand Rapids, Mich.....	a/4,900	1897-1900*; 1901-5; 1906-18*; 1930-
Grand River near Marne, Mich.....	a/5,170	1931.
Crockery Creek at Slocums Grove, Mich.....	-	1902-3*.
Higgins Lake Outlet (head of Muskegon River) near Roscommon, Mich.....	a/58	1942-50.
Muskegon River near Merritt, Mich.....	309	1946-
Muskegon River at Evart, Mich.....	a/1,450	1930-31; 1934-
Muskegon River at Newaygo (at Croton Power Plant near Newaygo) at Newaygo, Mich.....	a/2,350	1901-6; (1908-19)k/; 1930-
Pere Marquette River at Scottville (Custer), Mich.....	709	1939-
Big Sable River near Freesoil, Mich.....	127	1942-
Manistee River near Grayling, Mich.....	159	1942-
Manistee River near (at) Sherman, Mich.....	900	1903-16; 1930-31; 1934-
Pine River:		
East Branch Pine River near Tustin, Mich.....	a/63	1952-
Pine River near Le Roy, Mich.....	118	1952-
Pine River near Hoxeyville, Mich.....	251	1952-
Manistee River near Manistee, Mich.....	a/1,780	1951-
Little Manistee River near Stronach, Mich.....	233	1930-31.
Boardman River near Mayfield, Mich.....	223	1952-
Boardman River at Traverse City, Mich.....	-	1903-4*.
<u>Streams tributary to Lake Huron</u>		
Burt Lake (head of Cheboygan River):		
Sturgeon River near Wolverine, Mich.....	164	1942-
Indian River (outlet of Burt Lake) at		
Indian River, Mich.....	583	1942-
Pigeon River near Vanderbilt, Mich.....	a/63	1950-
Pigeon River at Afton, Mich.....	159	1942-
Cheboygan River (continuation of Indian River) near		
Cheboygan, Mich.....	865	1952-
Black River near Tower, Mich.....	313	1942-
Rainy River near Onaway, Mich.....	a/79	1942-52.
Rainy River near Ocqueoc, Mich.....	a/85	1952-
Black River near Cheboygan, Mich.....	597	1942-
Thunder Bay River near Hillman, Mich.....	232	1945-
Upper South Branch Thunder Bay River near Lachine, Mich....	171	1945-53.
Thunder Bay River near Bolton, Mich.....	588	1945-
North Branch Thunder Bay River near Bolton, Mich.....	184	1945-
Lower South Branch Thunder Bay River near Hubbard Lake, Mich.....	146	1945-53.
Thunder Bay River near Alpena, Mich.....	a/1,260	1901-8.
Au Sable (Middle Branch Au Sable) River at Grayling, Mich....	110	1942-
Au Sable River near Red Oak (Lovells), Mich.....	a/1,000	1908-14; 1930-31.
Au Sable River at Mio, Mich.....	a/1,100	1952-
Au Sable River at Bamfield, Mich.....	a/1,420	1902-13.
Au Sable River near Au Sable, Mich.....	a/1,540	1939-40.
East Branch Au Gres River at McIvor, Mich.....	a/84	1950-
Au Gres River near National City, Mich.....	169	1950-
Rifle River:		
Houghton Creek near Lupton, Mich.....	a/27	1950-
Rifle River at "The Ranch" near Lupton, Mich.....	a/54	1950-
Prior Creek near Selkirk, Mich.....	a/19	1950-
Rifle River at Selkirk, Mich.....	a/110	1950-
Shepards Creek:		
South Branch Shepards Creek near Selkirk, Mich.....	1.20	1951-
West Branch Rifle River near Selkirk, Mich.....	a/52	1952-
Rifle River at Michigan Highway 70, near Sterling, Mich.....	a/320	1937-
Rifle River near Sterling, Mich.....	-	1905-8*.
Rifle River at Omer, Mich.....	384	1902-3*.
Kawkawlin River:		
North Branch Kawkawlin River near Kawkawlin, Mich.....	101	1951-
Shiawassee River (head of Saginaw River) at Byron, Mich.....	366	1948-
Shiawassee River at Owosso, Mich.....	536	1931-

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

k/ House Document 143, 72nd Congress, 1st Session.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Huron--Continued</u>		
Shiawassee River near Fergus, Mich.....	637	1940-
Bad River near Brant, Mich.....	a/89	1948-
South Branch Flint River:		
Farmers Creek near Lapeer, Mich.....	a/57	1933-
Flint River at Columbiaville, Mich.....	486	(1932-33)m/; 1948-52.
Flint River:		
Holloway Reservoir near Otiaville, Mich.....	543	1954-†
Flint River near Otisville, Mich.....	547	1952-
Flint River at Genesee, Mich.....	593	1931-52.
Flint River near (at) Flint, Mich.....	927	1903-4*; (1911-28)1/;
		1932-
Flint River near Fosters, Mich.....	a/1,120	(1910-20; 1922-27)1/;
		1940-
Flint River near Alicia, Mich.....	-	1948-*
East Branch Cass River near Cass City, Mich.....	251	1948-
Cass River at Cass City, Mich.....	a/370	1948-
Cass River at Vassar, Mich.....	a/700	(1910-28)1/; 1948-
Cass River at Frankenmuth, Mich.....	848	1908-9; 1935-36; 1939-
Cass River at Bridgeport, Mich.....	-	1908*.
Tittabawassee River:		
Tobacco River at Beaverton, Mich.....	487	1948-
Salt River:		
North Fork Salt River:		
Kinney Creek near Clare, Mich.....	a/9	1935-36.
Salt River near North Bradley, Mich.....	138	1934-
Chippewa River near Mount Pleasant, Mich.....	416	(1910-27)1/; 1930-31;
		1932-
Chippewa River near Midland, Mich.....	597	1948-
Pine River at Alma, Mich.....	288	(1910-28)1/; 1930-
Pine River near Midland, Mich.....	a/390	1934-38; 1948-
Tittabawassee River at Midland, Mich.....	a/2,400	(1910-26)1/; 1936-
Tittabawassee River at Freeland, Mich.....	a/2,530	1903-9*; 1912-36.
Saginaw River at Saginaw, Mich.....	6,060	1904-††; (1910-20**;
		1921-)m/.
Sebewaing River (State drain) near Sebewaing, Mich.....	a/62	1940-54.
East Fork Sebewaing River (Columbia drain) near		
Sebewaing, Mich.....	a/38	1940-54.
Pigeon River near Owendale, Mich.....	a/55	1952-
Pigeon River near Pigeon, Mich.....	a/86	1946-52.
<u>Streams tributary to St. Clair River</u>		
Black River near Fargo, Mich.....	475	1944-
Mill Creek near Abbottsford, Mich.....	138	1947-
Black River near Port Huron, Mich.....	634	1931; 1932-43.
<u>Streams tributary to Lake St. Clair</u>		
Clinton River at Pontiac, Mich.....	123	1935-40.
Paint Creek near Lake Orion, Mich.....	-	1955-
Red Run near Royal Oak, Mich.....	38.5	1953-
Bear Creek at Warren, Mich.....	17.3	1954-
Big Beaver Creek at Warren, Mich.....	25.2	1954-
Plum Brook near Utica, Mich.....	22.5	1954-
Clinton River near Fraser, Mich.....	454	1947-
North Branch Clinton River near Mount Clemens, Mich.....	185	1947-
Middle Branch Clinton River near Mount Clemens, Mich.....	51	1947-49.
Clinton River at Mount Clemens, Mich.....	733	1934-
<u>Streams tributary to Detroit River</u>		
River Rouge at Birmingham, Mich.....	a/33	1950-
River Rouge at Detroit, Mich.....	193	1930-
Middle River Rouge near Garden City, Mich.....	a/93	1947-
Middle River Rouge at Detroit, Mich.....	a/99	1930-33.
Lower River Rouge at Inkster, Mich.....	a/90	1947-
Lower River Rouge at Dearborn, Mich.....	a/96	1930-33.
<u>Streams tributary to Lake Erie</u>		
Huron River:		
Hayes Creek at Commerce, Mich.....	a/7.5	1946-51.
Huron River at Commerce, Mich.....	a/51	1946-
Huron River at Milford, Mich.....	125	1948-
Huron River near New Hudson, Mich.....	143	1948-
Davis Creek near Whitmore Lake, Mich.....	a/70	1952-54.
Orc Creek near Brighton, Mich.....	a/31	1951-
Huron River near Hamburg, Mich.....	299	1951-
Portage Creek near Pinckney, Mich.....	a/79	1944-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** High water records only.

a/ Approximately.

1/ In reports of U. S. Weather Bureau, gage heights during high water only.

m/ In reports of U. S. Weather Bureau, gage heights only.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Erie--Continued</u>		
Huron River near Dexter (at Dover), Mich.....	506	1904*; 1946-
Mill Creek near Dexter, Mich.....	134	1952-
Huron River at Dexter, Mich.....	-	1904-16*.
Huron River at Ann Arbor (Geddes) (Barton), Mich.....	711	1904; 1905†; 1906-40; 1948-
Huron River at French Landing, Mich.....	-	1904-5.
Huron River at Flat Rock, Mich.....	851	1904-11; 1912-22*.
River Raisin (Raisin River) near Adrian, Mich.....	455	1930-31; 1932-36; 1953-
River Raisin (Raisin River) near (at) Monroe, Mich.....	1,034	1937-
Ottawa River:		
Tennile Creek at Toledo, Ohio.....	139	1945-48.
St. Joseph River (head of Maumee River) near Blakeslee, Ohio.	369	1926-32.
St. Joseph River near Newville, Ind.....	614	1946-
St. Joseph River at Hursh, Ind.....	737	1950-54.
St. Joseph River at Cedarville, Ind.....	783	1931-32; 1955-
Cedar Creek at Auburn, Ind.....	a/93	1943-
Cedar Creek near Cedarville, Ind.....	279	1946-
St. Joseph River near (at) Ft. Wayne, Ind.....	1,060	1905-6; 1941-55.
St. Marys River near Willshire, Ohio.....	369	1925-32.
St. Marys River at Decatur, Ind.....	615	1946-
St. Marys River near Ft. Wayne, Ind.....	753	(1924-25; 1927)h/; 1930-
St. Marys River at Ft. Wayne, Ind.....	798	1905-6.
Maumee River at New Haven, Ind.....	1,940	1946-††
Maumee River at Antwerp, Ohio.....	2,049	1921-35; 1939-
Maumee River near Sherwood, Ohio.....	2,190	1903-6.
Bean Creek (head of Tiffin River) at Powers, Ohio.....	238	1940-
Tiffin River at (near) Stryker, Ohio.....	444	1921-28; 1940-
Tiffin River near Brunersburg, Ohio.....	766	1903-6; 1928-35.
Auglaize River:		
Miami & Erie Canal at Delphos, Ohio.....	-	1928-33.
Auglaize River near Fort Jennings, Ohio.....	333	1921-35; 1940-
Ottawa River at Lima, Ohio.....	133	1902-3*.
Ottawa River at Allentown, Ohio.....	168	1923-35; 1943-
Ottawa River at Kalida, Ohio.....	315	1930-35.
Blanchard River:		
Eagle Creek near Findlay, Ohio.....	46.5	1947-
Blanchard River near Findlay, Ohio.....	343	1923-35; 1940-
Blanchard River at Glandorf, Ohio.....	643	1902-3*; 1921-28; 1947-51.
Blanchard River near Dupont, Ohio.....	749	1928-35.
Little Auglaize River:		
Middle Creek:		
Town Creek:		
Roller Creek at Ohio City, Ohio.....	4.94	1946-48; 1948-†††
Town Creek near Van Wert, Ohio.....	20.4	1945-53.
Auglaize River near Defiance, Ohio.....	2,329	1903*; 1915-35; 1940-
Miami & Erie Canal near Defiance, Ohio.....	-	1924-29; 1935; 1952-
Maumee River near Defiance, Ohio.....	5,530	1924-35; 1939-
Miami & Erie Canal at Waterville, Ohio.....	-	1921-29.
Maumee River at Waterville, Ohio.....	6,314	1898-1901; 1921-35; 1939-
Swan Creek at Toledo, Ohio.....	185	1945-48.
South Branch Portage River near Pemberville, Ohio.....	334	1930-35.
North Branch Portage River near Bowling Green, Ohio.....	54.0	1923-32.
Portage River at Woodville, Ohio.....	433	1928-35; 1939-
Sandusky River near Bucyrus, Ohio.....	89.8	1925-35; 1938-51.
Sandusky River near Upper Sandusky, Ohio.....	299	1921-35; 1938-
Sandusky River near (at) Mexico, Ohio.....	776	1898-1900*; 1923-35; 1938-
Havens Creek at Havens, Ohio.....	5.00	1946-49; 1949-†††
Sandusky River near (at) Fremont, Ohio.....	1,248	1898-1901*; 1923-35; 1938-
Huron River:		
East Branch Huron River near Norwalk, Ohio.....	84.9	1923-35.
Huron River at Milan, Ohio.....	363	1950-
Vermilion River near Vermilion, Ohio.....	260	1950-
East Branch Black River at Elyria, Ohio.....	211	1922-35.

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† Monthly figures of discharge or contents only.

†† High water records only.

††† Discharge measurements only.

a/ Approximately.

h/ In reports of Indiana Department of Conservation.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Erie--Continued</u>		
Black River at Elyria, Ohio.....	392	1944-
Black River near Elyria, Ohio.....	417	1903-6.
Rocky River near Berea, Ohio.....	269	1923-35; 1943-
Cuyahoga River at Hiram Rapids (near Hiram), Ohio.....	147	1927-35; 1944-
Cuyahoga River near Kent, Ohio.....	205	1953-35.
Congress Lake Outlet near Kent, Ohio.....	76.9	1927-35.
Cuyahoga River at Kent, Ohio.....	302	1927-32.
Little Cuyahoga River at Mogadore, Ohio.....	12.3	1946-
Little Cuyahoga River at Massillon Road, Akron, Ohio.....	31.0	1946-
Springfield Lake Outlet at Akron, Ohio.....	8.40	1946-
Little Cuyahoga River at Akron, Ohio.....	42.0	1920-35; 1939-42.
Cuyahoga River at Old Portage, Ohio.....	405	1921-35; 1939-
Cuyahoga River at Brecksville, Ohio.....	584	1923-24.
Ohio Canal feeder at Brecksville, Ohio.....	-	1923-24.
Ohio Canal at Independence, Ohio.....	-	1921-23; 1927-35; 1950-
Cuyahoga River at Independence, Ohio.....	709	1903-6; 1921-23; 1927-35; 1940-
Cuyahoga River at Cleveland, Ohio.....	-	1903*.
Chagrin River at Willoughby, Ohio.....	251	1925-35; 1939-
Grand River near North Bristol, Ohio.....	89.7	1942-47.
Phelps Creek near Windsor, Ohio.....	26.4	1942-
Grand River near Rome, Ohio.....	276	1942-47.
Rock Creek near Rock Creek, Ohio.....	56.6	1942-
Mill Creek near Jefferson, Ohio.....	78.3	1942-
Grand River near Madison, Ohio.....	587	1922-35; 1938-
Ashtabula River near Ashtabula, Ohio.....	118	1924-35; 1939-47; 1950-
Conneaut Creek at Amboy, Ohio.....	178	1922-35; 1950-
Cattaraugus Creek at Gowanda, N. Y.....	428	1939-
Cattaraugus Creek at Versailles, N. Y.....	464	1910-23.
Buffalo Creek at Gardenville, N. Y.....	145	1938-
Cayuga Creek near Lancaster, N. Y.....	93.3	1938-
Cazenovia Creek at Ebenezer, N. Y.....	136	1940-
Niagara River at Buffalo, N. Y.....	a/260,400	1905-35†; 1935-
<u>Streams tributary to Niagara River</u>		
<u>Tonawanda Creek:</u>		
Little Tonawanda Creek at Linden, N. Y.....	22.0	1912-
Tonawanda Creek at Batavia, N. Y.....	172	1944-
Tonawanda Creek near Alabama, N. Y.....	-	1955-
Tonawanda Creek at Rapids, N. Y.....	358	1955-
Ellicott Creek at Williamsville, N. Y.....	76.3	1955-
Barge Canal at lock 30, Macedon, N. Y.....	-	1919-20; 1950-
Barge Canal at lock 32, Pittsford, N. Y.....	-	1919-21.
<u>Streams tributary to Lake Ontario</u>		
Oak Orchard Creek near Medina, N. Y.....	143	1903-4.
<u>Genesee River:</u>		
Dyke Creek at Wellsville, N. Y.....	71.4	1955-
Genesee River at Wellsville, N. Y.....	288	1955-
Genesee River at Scio, N. Y.....	309	1916-
Caneadea Creek at Caneadea, N. Y.....	61.5	1949-
Lost Nation Brook near Centerville, N. Y.....	-	1934-35.
Genesee River at Portageville, N. Y.....	982	1945-
Genesee River at St. Helena, N. Y.....	1,017	1908-50.
Mount Morris Reservoir near Mount Morris, N. Y.....	1,077	1952-
Genesee River at Mount Morris, N. Y.....	1,078	(1890)n/; 1893-96; 1903-9.
Canaseraga Creek near Dansville (at Cumminsville), N. Y....	153	1910-12; 1915-
Canaseraga Creek at Groveland Station, N. Y.....	181	1915-20; 1955-
Keshequa Creek at Craig Colony, Sonyea, N. Y.....	69.1	1910-12; 1917-32.
Keshequa Creek near Sonyea, N. Y.....	76.5	1915-17.
Canaseraga Creek at Shakers Crossing, N. Y.....	334	1915-22.
Genesee River at Jones Bridge, near Mount Morris, N. Y.....	1,419	1903-6; 1908-14; 1915-
Conesus Creek near Lakeville, N. Y.....	72.0	1919-34.
Genesee River at Avon, N. Y.....	1,666	1955-
<u>Honeoye Creek:</u>		
<u>Hemlock Lake Outlet:</u>		
Canadice Lake Outlet near Hemlock, N. Y.....	12.6	1903-†
Honeoye Creek at Honeoye Falls, N. Y.....	197	1945-
Honeoye Creek at East Rush, N. Y.....	238	1903-6.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

n/ In reports of N. Y. State Engineer and Surveyor.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to Lake Ontario--Continued</u>		
Genesee River--Continued		
Oatka Creek at Garbutt, N. Y.....	208	1945-
Black Creek at Churchville, N. Y.....	123	1945-
Genesee River at Rochester, N. Y.....	2,450	1904-19.
Genesee River at Driving Park Avenue, Rochester, N. Y.....	2,467	1919-
Seneca Lake (head of Seneca River) at Geneva, N. Y.....	714	1905-6*.
Seneca River (head of Oswego River):		
Cayuga Inlet near Ithaca, N. Y.....	36.7	1937-
Cayuga Lake at Ithaca, N. Y.....	-	1905-9*.
Fall Creek near Ithaca, N. Y.....	124	1908-9*; 1925-
Clyde River:		
Canandaigua Lake at Canandaigua, N. Y.....	189	1939-
Canandaigua Lake Outlet at Chapin, N. Y.....	199	1939-
Owasco Lake Outlet near Auburn, N. Y.....	208	1912-
Skaneateles Lake at Skaneateles, N. Y.....	73.8	1890-91*.
Skaneateles Lake Outlet at Willow Glen, N. Y.....	75.9	1892-1908.
Skaneateles Lake Outlet at Jordan, N. Y.....	90.7	1890-92.
Seneca River at Baldwinsville, N. Y.....	3,130	1898-1908; 1949-
Onondaga Creek:		
Onondaga Reservoir near Nedrow, N. Y.....	68.1	1949-
West Branch Onondaga Creek at South Onondaga, N. Y.....	20.8	1916-18.
Onondaga Creek at Dorwin Avenue, Syracuse, N. Y.....	88.9	1951-
Onondaga Creek at Syracuse, N. Y.....	98.2	1939-49.
Onondaga Creek at Temple Street, Syracuse, N. Y.....	-	1949-51.
Onondaga Lake Outlet at Long Branch, N. Y.....	301	1904.
West Branch Fish Creek (through Oneida Lake, head of Oneida River), at McConellsville, N. Y.....	192	1898-1901.
East Branch Fish Creek at Fish Creek, near Constableville, N. Y.....	74.3	1923-32.
East Branch Fish Creek at Point Rock, N. Y.....	109	1898-99.
East Branch Fish Creek at Taberg, N. Y.....	189	1923-
Oneida Lake:		
Oneida Creek at Kenwood, N. Y.....	62.1	1898-1900.
Oneida Creek at Oneida, N. Y.....	112	1949-
Chittenango Creek near Chittenango, N. Y.....	67.7	1950-
Chittenango Creek at Chittenango, N. Y.....	79	1901-6.
Butternut Creek:		
Limestone Creek at Fayetteville, N. Y.....	85.7	1939-
Chittenango Creek at Bridgeport, N. Y.....	311	1898-1901.
Oneida Lake at Brewerton, N. Y.....	1,353	1899*; (1904-25)*n/; 1951-*
Oneida River at Caughdenoy, N. Y.....	1,377	1910-13; 1947-
Oneida River at Oak Orchard, near Euclid, N. Y.....	1,433	1902-9.
Oswego River at Fulton, N. Y.....	5,043	1900; 1902.
Oswego River at Battle Island, above Minetto, N. Y.....	5,111	1900-6.
Oswego River at High Dam near Oswego, N. Y.....	5,120	1897-1901; 1927-28.
Oswego River at lock 7, Oswego, N. Y.....	5,121	1933-
Salmon River at Stillwater Bridge, near Redfield, N. Y.....	188	1911-13.
Orwell Brook near Altmar, N. Y.....	22.3	1911-16.
Salmon River near Pulaski, N. Y.....	257	1900-8; 1910-14.
Black River:		
Forestport feeder near Boonville, N. Y.....	-	1915-33.
Mill Creek Sluiceway at Boonville, N. Y.....	-	1933-40.
Black River Canal (flowing south) near Boonville, N. Y.....	-	1915-
Black River near Boonville, N. Y.....	295	1911-
Sugar River at Talcottville, N. Y.....	41.5	1926-32.
South Branch Moose River:		
Middle Branch Moose River at Old Forge, N. Y.....	a/52	1911-
Middle Branch Moose River near McKeever, N. Y.....	148	1925-
Moose River at McKeever (Moose River), N. Y.....	365	1900-
Otter Creek near Glenfield, N. Y.....	64.3	1924-33.
Independence River at Sperryville, N. Y.....	85	1927-42.
Independence River at Donnattsburg, N. Y.....	91.7	1942-
Beaver River:		
Stillwater Reservoir near Beaver River, N. Y.....	172	1925-
Beaver River below Stillwater Dam, near Beaver River, N. Y.	172	1908-
Beaver River at Eagle Falls, near Number Four, N. Y.....	227	1921-25.
Beaver River at (near) Croghan, N. Y.....	294	1901-3; 1930-
Deer River at Copenhagen, N. Y.....	a/89	1929-
Black River near Felts Mills, N. Y.....	1,828	1902-13.
Black River at Black River, N. Y.....	1,858	1917-20.
Black River at Huntingtonville Dam, near Watertown, N. Y.....	1,870	1897-1901.
Black River at Watertown, N. Y.....	1,876	1920-

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a/ Approximately.

n/ In reports of N. Y. State Engineer and Surveyor.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to St. Lawrence River</u>		
East Branch Oswegatchie River at Cranberry Lake, N. Y.....	144	1923-
East Branch Oswegatchie River at Newton Falls, N. Y.....	171	1912-23.
East Branch Oswegatchie River near Oswegatchie, N. Y.....	263	1924-
West Branch Oswegatchie River near Harrisville, N. Y.....	258	1916-
Oswegatchie River near Heuvelton, N. Y.....	973	1916-
Oswegatchie River near Ogdensburg, N. Y.....	1,572	1903-16.
St. Lawrence River at Ogdensburg, N. Y.....	295,200	1919-35†; 1935-
<u>Grass River:</u>		
North Branch Grass River near South Colton, N. Y.....	27.3	1924-32.
Grass River at Pyrites, N. Y.....	335	1924-
Raquette River at Raquette Falls, near Coreys, N. Y.....	419	1908-12.
Bog River near Tupper Lake, N. Y.....	132	1908-12.
Raquette River at Piercefield, N. Y.....	722	1909-
Raquette River near South Colton, N. Y.....	927	1904.
Raquette River at South Colton, N. Y.....	939	1953-
Raquette River at Raymondville, N. Y.....	1,131	1943-
Raquette River at Massena Springs, N. Y.....	1,197	1903-16.
St. Regis River at Brasher Center, N. Y.....	616	1910-17; 1919-
Deer River at Brasher Iron Works (railroad station), Ironton, N. Y.....	189	1912-16.
Salmon River at Chasm Falls, N. Y.....	132	1925-
Chateaugay River near Chateaugay, N. Y.....	112	1908; 1926-
<u>Lake Champlain (head of Richelieu River):</u>		
Great Chazy River at Mooers, N. Y.....	204	1908.
Great Chazy River at Perry Mills, N. Y.....	247	1928-
<u>Lower Saranac Lake (head of Saranac River) near</u>		
Saranac Lake, N. Y.....	146	1928-29*.
Saranac River at Saranac Lake, N. Y.....	146	1902-3.
Saranac River at Saranac, N. Y.....	521	1930-43.
Saranac River at (near) Plattsburg, N. Y.....	608	1903-30; 1943-
West Branch Ausable River near Newman, N. Y.....	116	1916-17; 1919-
Black Brook at Black Brook, N. Y.....	49.4	1924-
East Branch Ausable River at Au Sable Forks, N. Y.....	196	1924-
Ausable River near (at) Au Sable Forks, N. Y.....	448	1910-
Ausable River at Keeseville, N. Y.....	473	1904; 1908.
Bouquet River at Willsboro, N. Y.....	275	1904*; 1908; 1923-
Lake George at Lake George, N. Y.....	-	1913-14*.
Lake George at Sagamore, N. Y.....	-	1913-14*.
Lake George at Rogers Rock, N. Y.....	-	1913-*
Lake George at Glen Island, near Bolton Landing, N. Y.....	-	1919-24*.
Lake George Outlet at Ticonderoga, N. Y.....	234	1904-5; 1942-
Poultney River near Fair Haven, Vt.....	a/74	1908.
Poultney River below Fair Haven, Vt.....	187	1928-
Mettawee River at Whitehall, N. Y.....	-	1908.
<u>Otter Creek:</u>		
East Creek near Rutland, Vt.....	a/47	1911-13*.
East Creek at Rutland, Vt.....	51.1	1940-
Otter Creek at Center Rutland, Vt.....	307	1928-
Otter Creek at Middlebury, Vt.....	628	1903-7; 1910-20; 1928-
<u>Winooski River:</u>		
Mollys Brook near Marshfield, Vt.....	a/24	1920-23.
<u>Stevens Branch:</u>		
East Barre Detention Reservoir at East Barre, Vt.....	38.8	1936*; 1938-44†; 1945-†
Jail Branch (Brook) at East Barre, Vt.....	40.4	1920-23; 1933-
Stevens Branch Winooski River near Montpelier, Vt.....	130	1910*.
Wrightsville Detention Reservoir at Wrightsville, Vt.....	66.5	1936*; 1938-44†; 1945-†
North Branch Winooski River at Wrightsville, Vt.....	69.2	1933-
Winooski River at Montpelier, Vt.....	397	1909-23; 1928-
Dog River at Northfield, Vt.....	a/52	1909-20; 1928-34.
Dog River at Northfield Falls, Vt.....	76.1	1934-
Dog River near Montpelier, Vt.....	a/86	1910*.
Mad River near Moretown, Vt.....	139	1910; 1928-
<u>Waterbury River:</u>		
Waterbury Reservoir near Waterbury, Vt.....	109	1938-**†
Waterbury (Little) River near Waterbury, Vt.....	111	1910*; 1935-
Winooski River at Richmond, Vt.....	985	1903-7; 1910.
Huntington River at Jonesville, Vt.....	a/55	1910*.
Winooski River near Essex Junction, Vt.....	1,044	1928-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Streams tributary to St. Lawrence River--Continued</u>		
<u>St. Lawrence River--Continued</u>		
<u>Lake Champlain--Continued</u>		
<u>Lamoille River:</u>		
Green River at Garfield, Vt.....	a/18	1915-21; 1922-32.
Lamoille River at Cadys Falls, Vt.....	268	1913-23.
Lamoille River at Johnson, Vt.....	310	1910-13; 1928-
Lamoille River at East Georgia (near Milton), Vt.....	686	1929-
Missisquoi River near North Troy, Vt.....	131	1931-
Missisquoi River near Richford, Vt.....	479	1911-23; 1928-
Missisquoi River at Swanton, Vt.....	850	1903*,
Lake Champlain at Burlington, Vt.....	-	1907-*
Richelieu River (Lake Champlain) at Rouses Point (Port Montgomery), N. Y.....	8,277	1863-70†††; 1871-*
<u>St. Francis River:</u>		
Lake Memphremagog (head of Magog River) at Newport, Vt.....	-	1931-*
Black River at Coventry, Vt.....	122	1951-
Clyde River at Newport (West Derby), Vt.....	142	1909-24; 1928-36; 1938-

* Gage heights or gage heights and discharge measurements only.

††† Monthly gage heights only.

a/ Approximately.

ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

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tributary).....	3	Deer Creek, Mich.....	5
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Great Chazy River, N. Y.....	11	Michigamme River, Mich.....	3
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Havens Creek, Ohio.....	8	Midlothian Creek, Ill.....	4
Hayes Creek, Mich.....	7	Mill Creek, Mich. (St. Clair River tributary).....	7
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Iron River, Mich. (Lake Superior tributary).....	2		
Iron River, Mich. (Menominee River tributary).....	3	Niagara River, N. Y.....	9
		North Branch or Fork. <u>See</u> name of main stream.	
Jail Branch, Vt.....	11	North Creek, Ill.....	4
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Little Calumet River, Ind.....	5	Orchard Creek, Mich.....	5
Little Cayahoga River, Ohio.....	9	Ore Creek, Mich.....	7
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Pine River, Wis.....	3	Stoney Brook, Minn.....	2
Plum Brook, Mich.....	7	Sturgeon River, Mich. (Lake Superior tributary).....	3
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Portage Creek, Mich. (Lake Erie tributary).	7	Sturgeon River, Mich. (Cheboygan River tributary).....	6
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Portage River, Ohio.....	8	Swamp Creek, Wis.....	4
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Poultney River, Vt.....	11	Swan River, East, Minn.....	2
Presque Isle River, Mich.....	2	Tahquamenon River, Mich.....	3
Prior Creek, Mich.....	6	Tenderfoot Lake, Wis.....	3
Quaker Brook, Mich.....	6	Tenmile Creek, Ohio.....	8
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Raquette River, N. Y.....	11	Thunder Bay River, Mich.....	6
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Rifle River, Mich.....	6	Tittabawassee River, Mich.....	7
Rifle River, West Branch, Mich.....	6	Tobacco River, Mich.....	7
River Raisin, Mich.....	8	Tonawanda Creek, N. Y.....	9
River Rouge, Mich.....	7	Tonawanda Creek, Little, N. Y.....	9
River Rouge, Lower, Mich.....	7	Town Creek, Ohio.....	8
River Rouge, Middle, Mich.....	7	Upper South Branch Thunder Bay River, Mich.....	6
Rock Creek, Ohio.....	9	Vermilion River, Ohio.....	8
Rocky River, Ohio.....	9	Walsh Creek, Mich.....	3
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Roller Creek, Ohio.....	8	Waterbury River, Vt.....	11
Saginaw River, Mich.....	7	Waupaca River, Wis.....	4
St. Francis River, Quebec.....	12	West Branch or Fork. <u>See</u> name of main stream.	
St. Joseph River, Ind., Mich.....	5	West Two River, Minn.....	2
St. Joseph River, Ind., Ohio.....	8	Wheeler Lake, Wis.....	4
St. Lawrence River, N. Y.....	11	White River, Wis.....	2
St. Louis River, Minn.....	2	Whiteface River, Minn.....	2
St. Marys River, Ind., Ohio.....	8	Winooski River, Vt.....	11
St. Regis River, N. Y.....	11	Winooski River, North Branch, Vt.....	11
Salmon River, N. Y. (Lake Ontario tributary).....	10	Winooski River, Stevens Branch, Vt.....	11
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Salt Creek, Ind.....	5	Wolf River, Wis.....	4
Salt River, Mich.....	7	Wolf River, West Branch, Wis.....	4
Sand Creek, Mich.....	3	Wolf River, Little, Wis.....	4
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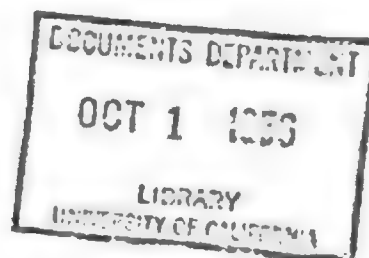
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GEOLOGICAL SURVEY CIRCULAR 385



INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 5.—HUDSON BAY AND UPPER MISSISSIPPI
RIVER BASINS



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 385

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 5.—HUDSON BAY AND UPPER MISSISSIPPI RIVER BASINS

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 5.—HUDSON BAY AND UPPER MISSISSIPPI RIVER BASINS

By H. F. Matthai

EXPLANATION

This index lists the streamflow and reservoir stations in the Hudson Bay and upper Mississippi River basins for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indention and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indention in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 22 to 26.

HUDSON BAY BASIN

Gaging station	Drainage area (sq mi)	Period of record
Lake Winnipeg (head of Nelson River):		
Saskatchewan River basin		
Belly River at international boundary.	74.8	1947-
North Fork Belly River at international boundary. . . .	10.1	1947-55.
Mountain View Irrigation District Canal near Mountain View, Alberta.	-	1949- ; (1935-48)a/.
Belly River near Mountain View, Alberta.	121	1948- ; (1911-47)a/.
Waterton River near international boundary.	61.0	1947-
Street Creek at international boundary.	b/6.0	1947-55.
Boundary Creek at international boundary.	21.0	1947-
Waterton River near Waterton Park, Alberta.	238	1948- ; (1908-33)a/.
St. Mary (Upper St. Mary) Lake (head of St. Mary River) near St. Mary (at St. Mary Chalet), Mont.	-	1929- * †
Swiftcurrent Creek:		
Grinnell Creek near Many Glacier, Mont.	3.47	1949-
Swiftcurrent Creek at Many Glacier (McDermott Lake), Mont.	31.4	1912-
Canyon Creek near Many Glacier, Mont.	7.0	1918-37.
Lake Sherburne (Sherburne Lake Reservoir) at Sherburne (near Babb), Mont.	63.7	1915; 1917-18; 1921-52; 1953- †
Swiftcurrent Creek at Sherburne (Sherburne Lake), Mont.	63.7	1912-
Swiftcurrent Creek near Babb (formerly Wetzel), Mont..	101	1902-10.
Lower St. Mary Lake near Babb, Mont.	-	1929- * †
St. Mary River near Babb (at damsite, near St. Mary), Mont.	278	1902-25; 1929-32; 1934-
St. Mary Canal at intake, near Babb, Mont.	-	1918-50.
St. Mary Canal at St. Mary crossing, near Babb, Mont..	-	1918-
St. Mary Canal at Hudson Bay Divide, near Browning, Mont.	-	1917-
St. Mary River below Swiftcurrent Creek, at Babb, Mont..	298	1901-2; 1910-15.
Kennedy Creek near Babb (formerly Wetzel), Mont. . . .	b/50	1903-7*; 1911-12*.
St. Mary River near Kimball (Cardston), Alberta.	497	1902-
Red River of the North basin		
Otter Tail River (head of Red River of the North) near Detroit Lakes, Minn.	270	1937-
Otter Tail River at German Church (near Fergus Falls), near Fergus Falls, Minn.	b/1,230	1904-17.
Lakes in Otter Tail River basin above Pelican River:		
Little Bemidji Lake near Ponsford, Minn.	-	1938-39*; 1939-47* ††.
Many Point Lake near Ponsford, Minn.	-	1933-35*; 1938-45*.
Round Lake near Ponsford, Minn.	-	1938-47*.
Ice Cracking Lake near Ponsford, Minn.	-	1938-39*; 1940-46* ††.
Height of Land Lake near Detroit Lakes, Minn.	-	1938- *
Acorn Lake near Frazee, Minn.	-	1937-39*; 1940-46* ††.
Wimar Lake near Frazee, Minn.	-	1937-39*; 1940-47* ††.
Rose Lake near Vergas, Minn.	-	1937-38*; 1940-47* ††.
Long Lake (Otter Tail County) near Vergas, Minn.	-	1937-39*; 1940-46* ††.
Little Pine Lake near Perham, Minn.	-	1937-47*.
Little Toad Lake near Ponsford, Minn.	-	1937-39*; 1939-47* ††.
Pine Lake near Perham, Minn.	-	1934-47*.
Rush Lake near Otter Tail, Minn.	-	1934-48*.
Marion Lake near Richville, Minn.	-	1944-47*.
Otter Tail Lake near Battle Lake, Minn.	-	1933-49*.
East Battle Lake near Clitherall, Minn.	-	1937-42*; 1942-47* ††.
Twin Lakes near Amor, Minn.	-	1935-36*.
Wall Lake near Fergus Falls, Minn.	-	1938-39*; 1940-47* ††.
Pelican River near Detroit Lakes, Minn.	123	1942-53.
Pelican River near Fergus Falls, Minn.	482	1909-12; 1942-
Lakes in Pelican River basin:		
Long Lake (Becker County) near Detroit Lakes, Minn. . .	-	1937-39*.
Detroit Lake near Detroit Lakes, Minn.	-	1937-39*; 1940-47* ††.
Sallie Lake at Shoreham, Minn.	-	1937-39*; 1939-47* ††.
Melissa Lake near Shoreham, Minn.	-	1937- *
Pelican Lake near Pelican Rapids, Minn.	-	1938-47*.
Lida Lake near Pelican Rapids, Minn.	-	1942-44*; 1946-47* ††.
Lizzie Lake near Pelican Rapids, Minn.	-	1938-48*.
Prairie Lake near Pelican Rapids, Minn.	-	1937-39*; 1939-47* ††.
Long Lake near Elizabeth, Minn.	-	1937-39*; 1940-47* ††.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of contents only.

‡ Fragmentary record.

†† Unpublished.

a/ In reports of Department of Northern Affairs and National Resources, Canada.

b/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Lake Winnipeg--Continued.		
Red River of the North basin--Continued.		
Otter Tail (Red) River near Fergus Falls, Minn.	b/1,690	1909-10* †.
Otter Tail River below Orwell Dam (below Pelican River), near Fergus Falls, Minn.	b/1,830	1930-
Otter Tail River at Breckenridge, Minn.	b/2,040	1931-32; 1939-46* ††.
Mustinka River (head of Bois de Sioux River) near Norcross, Minn.	-	1940-47*
Mustinka ditch above West Branch Mustinka River (Twelve Mile Creek) near Charlesville, Minn.	-	1943-55.
West Branch Mustinka River: Mustinka ditch below West Branch Mustinka River (Twelve Mile Creek) near Charlesville, Minn.	-	1943-55.
West Branch Mustinka River (Twelve Mile Creek) below Mustinka ditch, near Charlesville, Minn.	-	1943-55.
Mustinka River above (near) Wheaton, Minn.	834	1916-17; 1919-24; 1931-
Lake Traverse near Browns Valley, Minn.	-	1936-46*
Bois de Sioux River near White Rock, S. Dak.	b/1,160	1941-
Bois de Sioux River near Fairmount, N. Dak. (Tenny, Minn.)	b/1,540	1919-44.
Rabbit Creek at Campbell, Minn.	266	1942-50.
Red River of the North at Wahpeton, N. Dak.	b/4,010	1942-
Wild Rice River near Mantador, N. Dak.	c/1,540	1944-51; 1952-
Antelope Creek at Dwight, N. Dak.	267	1944-49; 1952-
Wild Rice River near Abercrombie, N. Dak.	d/2,170	1932-
Wild Rice River near Wild Rice, N. Dak.	d/2,370	1919.
Red River of the North at Fargo, N. Dak.	d/6,800	1901-
Sheyenne River above Harvey, N. Dak.	170	1953-
Sheyenne River near Harvey, N. Dak.	562	1945-
Sheyenne River at Sheyenne, N. Dak.	b/1,830	1929-33; 1939-51.
Sheyenne River near Warwick, N. Dak.	b/2,100	1949-
Devils Lake near Devils Lake, N. Dak.	b/3,400	1901- *
Sheyenne River near Cooperstown, N. Dak.	e/6,780	1945-
Lake Ashtabula at Baldhill Dam, N. Dak.	e/7,900	1949- †
Sheyenne River below Baldhill Dam, N. Dak.	e/7,900	1949-
Sheyenne River at Valley City, N. Dak.	e/8,200	1919; 1938-
Sheyenne River near Kindred, N. Dak.	e/9,170	1949-
Sheyenne River at West Fargo (Haggart), N. Dak.	e/9,270	1902-7; 1919; 1929-
Maple River at Mapleton, N. Dak.	b/1,480	1944-
Rush River at Amenia, N. Dak.	107	1946-
Buffalo River near Hawley, Minn.	322	1945-
South Branch Buffalo River at Sabin, Minn.	522	1945-
Buffalo River near Dilworth, Minn.	b/1,040	1931-
Wild Rice River at Twin Valley, Minn.	888	1909-17; 1930-
Wild Rice River near Ada, Minn.	-	1948-53.
South Branch Wild Rice River near Borup, Minn.	254	1944-49.
Wild Rice River at Hendrum, Minn.	b/1,600	1944-
Red River of the North at Halstad, Minn.	e/21,800	1936-37; 1942-
Goose River:		
Beaver Creek near Hatton, N. Dak.	175	1954-
Goose River near Portland, N. Dak.	531	1939-
South Fork Goose River near Portland, N. Dak.	362	1939-42.
Goose River at Hillsboro, N. Dak.	b/1,220	1931-
Marsh River below Ada, Minn.	-	1948-52.
Marsh River near Shelly, Minn.	151	1944-
Sand Hill River at Beltrami, Minn.	324	1943-
Sand Hill ditch at Beltrami, Minn.	-	1943-
Sand Hill River at Climax, Minn.	405	1943-
Lakes Between Sheyenne River and Red Lake River:		
Buffalo Lake at Richwood, Minn.	-	1937-39*; 1939-46* ††.
Lower Rice Lake near Zerkel (Rice Lake near Bagley), Minn.	-	1935-39*; 1940-47* ††.
Rockstad Lake near Lake Itasca, Minn.	-	1938-39*; 1940-47* ††.
Tamarack Lake near Bagley, Minn.	-	1937-39*; 1939-46* ††.
South Twin Lake (Twin Lake) near Naytahwausch, Minn.	-	1937-47*.
Sargent Lake near Naytahwausch, Minn.	-	1939*; 1939- * ††
McCraney Lake near Waubesa, Minn.	-	1937-39*; 1941-47* ††.

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† Monthly figures of discharge or contents only.

* Fragmentary record.

†† Unpublished.

b/ Approximately.

c/ Approximately, includes about 380 sq mi which are probably noncontributing.

d/ Approximately, includes about 530 sq mi which are probably noncontributing.

e/ Approximately, includes 3,940 sq mi in closed Devils Lake basin.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Lake Winnipeg--Continued.		
<u>Red River of the North basin</u> --Continued.		
Lakes Between Sheyenne River and Red Lake River--Continued.		
White Earth Lake near White Earth, Minn.	-	1937-39*; 1939-40* ††; 1942-47* ††.
Upper Red Lake (head of Red Lake River) at Waskish, Minn.	-	1930-33*; 1940-46* ††.
Lower Red Lake (Red Lake) near Red Lake (at Redby), Minn.	-	1930- *
Red Lake River near Red Lake, Minn.	b/1,950	1933-
Red Lake River at High Landing, near Goodridge, (at Kratka), Minn.	b/2,300	1929-
Thief River near Gatzke, Minn.	-	1953-
Thief River near Thief River Falls, Minn.	959	1909-17; 1920-21; 1922-24; 1928-
Red Lake River at Thief River Falls, Minn.	b/3,450	1909-18; 1920-30.
Clearwater River near Pinewood, Minn.	132	1940-45.
Clearwater River near Leonard, Minn.	153	1934-47.
Clearwater River at Plummer, Minn.	512	1939-
Clearwater River at Red Lake Falls, Minn.	b/1,370	1909-17; 1934-
Red Lake River at Crookston, Minn.	b/5,280	1901-
Lakes in Red Lake River basin:		
Blackduck Lake near Blackduck, Minn.	-	1938-42*; 1942-47* ††.
Thief Lake (Thief River) near Middle River, Minn.	-	1933-46*.
Clearwater Lake near Leonard, Minn.	-	1934-47*.
Connection Lake near Fosston, Minn.	-	1938*; 1940-47* ††.
Cross Lake near Fosston, Minn.	-	1938*; 1941-47* ††.
Maple Lake near Mentor, Minn.	-	1941-46*.
Red River of the North at Grand Forks, N. Dak.	e/30,100	1901- ; (1882-1900)f/.
Turtle River at Manvel, N. Dak.	602	1945-
Red River of the North at Oslo, Minn.	e/31,200	1936-37; 1941-
Forest River near Fordville, N. Dak.	b/500	1940-
Forest River near Minto, N. Dak.	538	1932-44.
Forest River at Minto, N. Dak.	b/740	1944-
Snake River at Warren, Minn.	-	1945; 1953-
Snake River at Alvarado, Minn.	-	1945; 1953-
Snake River near Argyle, Minn.	-	1945.
Middle River near Strandquist, Minn.	-	1953-
Middle River at Argyle, Minn.	-	1945; 1950-
South Branch Park River near Park River, N. Dak.	214	1940-50.
Homme Reservoir near Park River, N. Dak.	229	1949- †
South Branch Park River below Homme Dam, N. Dak.	229	1949-
North Branch Park River:		
Cart Creek at Mountain, N. Dak.	16.9	1954-
Park River at Grafton, N. Dak.	742	1931-
Tamarac River near Strandquist, Minn.	-	1953-
Tamarac River at Stephen, Minn.	-	1945.
Tamarac River near Stephen, Minn.	-	1945; 1953-55.
Red River of the North at Drayton, N. Dak.	e/34,800	1936-37; 1941-49*; 1949-
Two Rivers (Middle Fork Two Rivers)		
near Hallock, Minn.	131	1931-38.
South Branch (Fork) Two Rivers at Pelan, Minn.	-	1928-38; 1953-
Bronson Lake near Lake Bronson (Bronson), Minn.	-	1938-47*.
South Branch (Fork) Two Rivers at Lake Bronson (Bronson), Minn.	444	1928-37; 1941-47; 1953-
South Branch Two Rivers (Two Rivers) at Hallock, Minn.	-	1938-39*; 1939-47* ††.
Two Rivers (South Branch Two Rivers) at Hallock, Minn.	625	1911-14; 1929-30; 1942-43.
Two Rivers below Hallock, Minn.	644	1945-55.
North Branch Two Rivers near Lancaster, Minn.	b/32	1929-38; 1941-55.
State ditch 85 near Lancaster, Minn.	E/95	1929-38; 1942-55.
North Branch Two Rivers at Lancaster, Minn.	209	1941-42; 1953-
North Branch Two Rivers near Northcote, Minn.	386	1941-42; 1945-51.
Two Rivers below North Branch, near Hallock, Minn.	b/1,060	1941-43.
Pembina River:		
Whitemud Creek:		
Lake Upsilon near St. John, N. Dak.	-	1931-33*.

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† Monthly figures of discharge or contents only.

* Fragmentary record.

†† Unpublished.

b/ Approximately.

e/ Approximately, includes 3,940 sq mi in closed Devils Lake basin.

f/ In reports of Minnesota State Drainage Commission.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Lake Winnipeg--Continued.		
Red River of the North basin--Continued.		
Pembina River near Manitou, Manitoba	b/2,090	1929- ; (1921-29)a/.
Pembina River near Walhalla, N. Dak.	3,109	1939-
Pembina River at Neche, N. Dak.	3,189	1903-15; 1919-
Tongue River:		
Herzog Creek near Concrete, N. Dak.	18.9	1954-
Tongue River at Akra, N. Dak.	148	1950-
Tongue River at Cavalier, N. Dak.	153	1938-51.
Tongue River near Pembina, N. Dak.	491	1939-42.
Red River of the North at Emerson, Manitoba.	e/40,200	1902; 1929- ; (1912-29)a/.
Roseau River near Malung, Minn.	252	1939-46.
Roseau River at Malung, Minn.	-	1928-38.
South Fork (West Branch) Roseau River		
near Malung, Minn.	312	1911-14; 1926-46.
Roseau River below South Fork, near Malung, Minn.	571	1946-
Roseau River at Roseau, Minn.	-	1940-47* ‡.
Roseau River near Roseau, Minn.	-	1930- *
Sprague (Mud) Creek near Sprague, Manitoba.	151	1928-
Roseau River at Roseau Lake, Minn.	-	1939- *
Pine Creek near Pine Creek, Minn.	74.6	1928-53.
Roseau River at Ross, Minn.	b/1,220	1928-
Roseau River near Badger, Minn.	-	1928- *
Roseau River near Duxby, Minn.	-	1929- * ‡
Badger Creek near Badger, Minn.	-	1929-30; 1931-38.
Roseau River near Haug, Minn.	-	1932- *
Roseau River at outlet of State ditch 69, near Oak Point, Minn.	-	1939-42*.
Roseau River at head of State ditch 51, near Oak Point, Minn.	-	1933-42*.
Roseau River at Oak Point, Minn.	-	1933-39*; 1941- *
Roseau River at Caribou, Minn.	-	1917; 1920-30.
Roseau River below State ditch 51, near Caribou, Minn.	b/1,570	1929-
Roseau River at international boundary, near Caribou, Minn.	b/1,590	1933- *
Roseau River at Dominion City, Manitoba	-	1912.
Assiniboine River:		
Souris River:		
Long Creek near Crosby, N. Dak.	g/1,800	1943-
Souris (Mouse) River near Sherwood, N. Dak.	b/9,570	1930-
Souris River at McKinney, N. Dak.	-	1933*.
Souris River near Carpio, N. Dak.	-	1933*.
Lake Darling near Foxholm, N. Dak.	b/10,100	1937- †
Souris River near Foxholm, N. Dak.	b/10,100	1904-5; 1906*; 1937-
Des Lacs River at Foxholm, N. Dak.	973	1904-6; 1945-
Souris River at Burlington, N. Dak.	-	1933*.
Souris River above (at) Minot, N. Dak.	b/11,300	1903-24; 1927-28; 1929- ; (1924-27; 1928-29)h/.
Souris River near Minot, N. Dak.	b/11,600	1928-29; 1933*.
Souris River at Logan, N. Dak.	-	1933*.
Souris River at Sawyer, N. Dak.	-	1933*.
Souris River at Velva, N. Dak.	-	1933*.
Souris River near Verendrye, N. Dak.	b/12,200	1933*; 1937-
Wintering River near Karlsruhe, N. Dak.	675	1937-
Souris River near Denbigh, N. Dak.	-	1933*.
Souris River near (at) Towner, N. Dak.	b/13,100	1933-38; 1938-41*.
Souris River near Bantry, N. Dak.	b/13,400	1937-
Willow Creek at Dunseith, N. Dak.	142	1953-
Oak Creek:		
Lake Metigoshe near Bottineau, N. Dak.	-	1931-32*; 1953- *
Souris River near Upham, N. Dak.	-	1933*.
Souris River near Westhope, N. Dak.	b/17,600	1929-

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ In reports of Department of Northern Affairs and National Resources, Canada.

b/ Approximately.

e/ Approximately, includes 3,940 sq mi in closed Devils Lake basin.

g/ Approximately, includes about 1,200 sq mi which are probably noncontributing.

h/ In reports of State engineer of North Dakota.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Lake Winnipeg--Continued.</u>		
<u>Lake of the Woods basin (head of Winnipeg River)</u>		
<u>Namakan River (head of Rainy River):</u>		
<u>Basswood River:</u>		
<u>Kawishiwi River:</u>		
<u>South Kawishiwi River:</u>		
Isabella River near Isabella, Minn.	341	1952-
South Kawishiwi River near Ely, Minn.	-	1951-
Stoney River near Isabella, Minn.	-	1952-
Dunka River near Babbitt, Minn.	-	1952-
Bear Island River near Ely, Minn.	-	1952-
Kawishiwi River near Winton, Minn.	b/1,200	1905-1907; 1912-19; 1923-
Basswood River near Winton, Minn.	b/1,740	1931- ; (1924;1925-30)a/.
Namakan River at outlet of Lac la Croix, Ontario. . .	5,165	1934- ;(1921-34)a/.
<u>Vermilion River:</u>		
Pike River near Embarrass, Minn.	-	1953-
<u>Vermilion River below Vermilion Lake, near</u>		
<u>Tower, Minn.</u>		
483		1911-17; 1928-
Rainy River at International Falls, Minn.	b/14,530	1907-17.
<u>Little Fork River:</u>		
Sturgeon River (Lake) at Side Lake, Minn.	-	1938-47*.
Sturgeon River near Chisholm, Minn.	187	1942-
Dark River near Chisholm, Minn.	b/54	1942-
Little Fork River at Little Fork, Minn.	b/1,730	1909-17; 1928-
Big Fork River at Big Falls, Minn.	b/1,460	1909-12; 1928-
Big Fork River at Laurel, Minn.	-	1909.
Black River near Loman, Minn.	-	1909.
Rainy River at Manitou Rapids, Minn.	b/19,400	1934-
Rainy River near Birchdale, Minn.	-	1932-34; (1911-24*; 1928-30)1/.
<u>Lakes in Rainy River basin:</u>		
Rainy Lake at Port Frances, Ontario (Ranier, Minn.)	-	1910-17*; 1934- †; (1917-34*)a/.
Burntside Lake near Ely, Minn.	-	1933-35*; 1947- * ††
Vermilion Lake near Soudan, Minn.	-	1913-15†; 1941-42†; 1946- †
Pelican Lake at Orr, Minn.	-	1938-47*.
Kabetogama Lake near Ray, Minn.	-	1933-47*.
Sand Lake near Brittmount (Sand Lake), Minn.	-	1938-39*; 1940-47* ††.
Bear Lake near Side Lake (Greenrock), Minn.	-	1938-39*; 1944-47* ††.
Thistledeew Lake near Side Lake, Minn.	-	1938-39*; 1939-43* ††.
Deer Lake Outlet (Deer Lake) near Effie, Minn.	-	1937-39*; 1939-46* ††.
Busties Lake near Effie, Minn.	-	1939*; 1941-46* ††.
Warroad River near Warroad, Minn.	110	1946-
Bulldog Run near Warroad, Minn.	14.2	1946-51.
East Branch Warroad River near Warroad, Minn.	102	1946-54.

UPPER MISSISSIPPI RIVER BASIN

<u>Lake Itasca (head of Mississippi River) at</u>		
<u>Lake Itasca, Minn.</u>		
-		1933-47*.
Bemidji Lake at Bemidji, Minn.	-	1940-46*.
Winnibigoshish Reservoir near Deer River, Minn.	1,442	1941- †; (1884-1941†)1/.
Mississippi River at Winnibigoshish Dam, near Deer River, Minn.	1,442	1941- ; (1884-1941)1/.
<u>Lakes above Leech Lake River:</u>		
Heart Lake near Lake Itasca, Minn.	-	1937-39*; 1940-43* ††.
Long Lake near Lake Itasca, Minn.	-	1937-39*; 1939-44* ††.
Sucker Lake near Lake Itasca, Minn.	-	1938-39*; 1940-43* ††; 1946* ††.
Little Wolf Lake near Cass Lake, Minn.	-	1938-39*; 1941* ††; 1942* ††; 1945-47* ††.
Little Turtle Lake near Turtle River, Minn.	-	1938-39*; 1940-47* ††.
Movil Lake near Turtle River, Minn.	-	1938-47*.
Three Island Lake near Turtle River, Minn.	-	1937-39*; 1939-47* ††.
Rabideau Lake near Blackduck (Turtle River), Minn.	-	1938-39*; 1939-47* ††.
<u>Leech Lake River basin</u>		
Leech Lake Reservoir at Federal Dam, Minn.	1,163	1941- †; (1884-1941†)1/.

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† Monthly figures of discharge or contents only.

†† Unpublished.

a/ In reports of Department of Northern Affairs and National Resources, Canada.

b/ Approximately.

1/ In files of St. Paul office of Corps of Engineers.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Leech Lake River basin--Continued.		
Leech Lake River at Federal Dam, Minn.	1,163	1929; 1941- ; (1884-1941)1/.
Lakes in Leech Lake River basin:		
Blackwater Lake near Backus (Pontoria), Minn.	-	1938-44*; 1946-47*.
McKeown Lake near Longville, Minn.	-	1937-39*; 1939-45* ††.
Little Boy Lake near Longville, Minn.	-	1937-39*; 1939-45* ††.
Lower Trelipe Lake near Longville, Minn.	-	1938-47*.
Six Mile Lake near Bena, Minn.	-	1939*; 1939-41* ††; 1943-46* ††.
Mud Lake near Ball Club (Deer River), Minn.	-	1938-44*; 1946-47*.
Mississippi River near Deer River, Minn.	b/3,190	1945-50.
Pokegama Reservoir near Grand Rapids, Minn.	3,265	1941- †; (1884-1941†)1/.
Mississippi River at Grand Rapids (at Pokegama Dam, near Grand Rapids), Minn.	b/3,370	1941- ; (1883-1941)1/.
Lakes between Leech Lake River and Prairie River:		
Ballclub Lake near Ballclub, Minn.	-	1937-47*.
Deer Lake near Deer River, Minn.	-	1938-47*.
Bass Lake near Cohasset, Minn.	-	1938-42*; 1942-47* ††.
Prairie River basin		
Prairie River near Grand Rapids, Minn.	485	1909*; (1925-1949†)1/.
Lakes in Prairie River basin:		
Wolf Lake near Nashwauk, Minn.	-	1939*; 1939-42* ††.
Hartley Lake near Hashwauk, Minn.	-	1939*; 1939-47* ††.
Buck Lake near Nashwauk, Minn.	-	1938-39*; 1940-43* ††.
Balsam Lake near Nashwauk, Minn.	-	1938-39*; 1939-47* ††.
Lakes between Prairie River and Swan River:		
Cowhorn Lake near Grand Rapids, Minn.	-	1937-39*; 1939-42* ††.
Spilthand Lake near Hill City, Minn.	-	1938-39*; 1939-47* ††.
Little Spilthand Lake near Grand Rapids, Minn.	-	1937-42*; 1942-47* ††.
Swan River basin		
Swan River near Warba, Minn.	254	1953-
Swan River near Swan River, Minn.	b/290	1929.
Mississippi River above Sandy River, near Libby, Minn.	b/4,560	1895-1915; 1925-28; 1929.
Sandy River basin		
Sandy Lake Reservoir at Libby, Minn.	421	1941- †; (1895-1941†)1/.
Sandy River at (below) Sandy Lake Dam, at Libby, Minn. (below Sandy Lake Reservoir)	421	1893-1916; 1941- ; (1895-1941)1/.
Lakes in Sandy River basin:		
Prairie Lake near Cromwell, Minn.	-	1937-39*; 1939-47* ††.
Minnewawa Lake near McGregor, Minn.	-	1938-47*.
Mississippi River below Sandy River, near Libby, Minn.	b/5,060	1930-
Willow River basin		
Willow River near Fallsade, Minn.	442	1929.
Lakes between Willow River and Mud River:		
Hill Lake near Hill City, Minn.	-	1937-47*.
Dam Lake near Aitkin, Minn.	-	1938-47*.
Rabbit Lake near Glen, Minn.	-	1938-39*; 1939-46* ††.
Mud River basin		
Mud River near Wealthwood, Minn.	-	1937-39*.
Lakes in Mud River basin:		
Rice Lake near Garrison, Minn.	-	1938-39*; 1940-47* ††.
Crooked Lake near Garrison, Minn.	-	1937-47*.
Bay Lake near Bennettville, Minn.	-	1937-51*.
Long Lake near Bennettville, Minn.	-	1937-47*.
Pine Lake near Aitkin, Minn.	-	1937-47*.
Spirit Lake near Bennettville, Minn.	-	1938-47*.
Mud Lake near Aitkin, Minn.	-	1937-39*; 1939-47* ††.
Hanging Kettle Lake near Aitkin, Minn.	-	1937-39*; 1939-48* ††.
Mississippi River at Aitkin, Minn.	b/6,140	1945-
Lakes in Little Willow River basin:		
Waukenabo Lake near Bain, Minn.	-	1937-39*; 1939-47* ††.
Esquagamah Lake near Bain, Minn.	-	1938-47*.
Lakes between Little Willow River and Pine River:		
Cedar Lake near Aitkin, Minn.	-	1937-47*.
Rogers Lake near Emily, Minn.	-	1938-39*; 1940-47* ††.
Upper Dean Lake near Emily (Crosby), Minn.	-	1937-39*; 1939-47* ††.

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† Monthly figures of discharge or contents only.

†† Unpublished.

b/ Approximately.

1/ In files of St. Paul office of Corps of Engineers.

1/ Bulletin No. 5, Minnesota Department of Conservation.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Pine River basin		
Pine River Reservoir at Cross Lake, Minn.	562	1941- †; (1886-1941†)1/
Pine River at Pine River Dam, at Cross Lake, Minn. (below Pine River Reservoir).	562	1895; 1916; 1929; 1941- ; (1886-1941)1/
Pelican Brook:		
Pelican Lake diversion near Pequot Lakes, Minn. . . .	-	1938- *
Pelican Brook (Long Lake) near Pequot Lakes, Minn. . .	-	1938-42*; 1942-47* ††.
Lakes in Pine River basin:		
Pine Mountain Lake near Backus, Minn.	-	1937-47*.
Bowen Lake near Backus, Minn.	-	1937-42*; 1942-47* ††.
Five Point Lake near Backus, Minn.	-	1937-39*; 1939-43* ††.
Portage Lake near Backus, Minn.	-	1937-39*; 1939-47* ††.
Hattie Lake near Pontoria, Minn.	-	1937-47*.
Hand Lake near Pontoria, Minn.	-	1937-39*; 1939-44* ††; 1947* ††.
Jule Lake near Pine River, Minn.	-	1937-39*; 1939-47* ††.
George Lake near Outing, Minn.	-	1937-39*; 1939-47* ††.
Washburn Lake near Outing, Minn.	-	1937-47*.
Roosevelt Lake near Outing, Minn.	-	1937-47*.
Eagle Lake near Emily, Minn.	-	1937-39*; 1939-47* ††.
Fox Lake near Swanburg, Minn.	-	1937-39*; 1939-47* ††.
O'Brien Lake near Emily, Minn.	-	1938-39*; 1940-47* ††.
Phelps Lake near Cross Lake, Minn.	-	1937-39*; 1939-47* ††.
Emily Lake near Emily, Minn.	-	1937-39*; 1939-47* ††.
Island Lake near Emily, Minn.	-	1937-39*; 1939-47* ††.
Lakes between Pine River and Rabbit River:		
Black Bear Lake near Trommald, Minn.	-	1937-44*; 1944-47* ††.
Mission Lake near Merrifield, Minn.	-	1938-47*.
Rabbit River basin		
Rabbit River near Crosby, Minn.	8.38	1945-
Lakes in Rabbit River basin:		
Clinker Lake near Cuyuna, Minn.	-	1937-39*; 1939-48* ††.
June Lake near Ironston, Minn.	-	1937-39*; 1939-47* ††.
Blackhoof Lake near Ironston (Riverton), Minn.	-	1937-47*.
Crow Wing River basin		
Crow Wing River:		
Little Sand Lake Outlet near Dorset, Minn.	-	1930-41.
Crow Wing River at Nimrod, Minn.	b/1,010	1910-14; 1930-
Crow Wing River at Motley, Minn.	b/2,140	1909; 1913-17; 1930-31.
Long Prairie River near Osakis, Minn.	-	1939-47*; 1949-54.
Long Prairie River near Motley, Minn.	-	1909-17; 1930-31.
Crow Wing River at Pillager, Minn.	b/3,230	1903; 1909-13.
Gull River:		
Gull Lake reservoir near Brainerd, Minn.	287	1941- †; (1911-41†)1/.
Gull River at Gull Lake Dam (Gull Lake reservoir), near Brainerd, Minn.	287	1929; 1941- ; (1911-41)1/.
Lakes in Crow Wing River basin:		
Crow Wing Lake No. 8 near Nevis, Minn.	-	1938-39*; 1939-47* ††.
Lake Belle Taine (Elbow Lake) near Nevis, Minn.	-	1935-38*; 1947-51* ††; 1953- * ††
Crow Wing Lake No. 5 near Nevis, Minn.	-	1938-47*.
Shell Lake near Ponsford, Minn.	-	1937-47*.
Stocking Lake near Menahaga, Minn.	-	1938-39*; 1939-47* ††.
Straight Lake at Osage, Minn.	-	1938-47*.
Two Inlets Lake near Park Rapids, Minn.	-	1938-39*; 1939-47* ††.
Potato Lake near Park Rapids, Minn.	-	1939-47*.
Portage Lake near Park Rapids, Minn.	-	1938-39*; 1940-47* ††.
Gourd Lake near Otter Tail, Minn.	-	1937-39*; 1940-47* ††.
West Leaf Lake near Otter Tail, Minn.	-	1937-47*.
Irene Lake near Miliona, Minn.	-	1937-39*; 1939-47* ††.
Miliona Lake near Miliona, Minn.	-	1937-47*.
Ida Lake near Alexandria, Minn.	-	1937-39*; 1941-47* ††.
Louise Lake near Alexandria, Minn.	-	1938-39*; 1941-47* ††.
Lobster Lake near Alexandria, Minn.	-	1938-39*; 1941-46* ††.
Brophy Lake near Alexandria, Minn.	-	1937-39*; 1940-47* ††.
Victoria Lake near Alexandria, Minn.	-	1937-39*; 1939-46* ††.
Geneva Lake near Alexandria, Minn.	-	1937-39*; 1940-46* ††.
Carlos Lake near Carlos, Minn.	-	1937-47*.
Smith Lake near Nelson, Minn.	-	1937-39*; 1940-46* ††.
Fishtrap Lake near Lincoln, Minn.	-	1938-39*; 1939-47* ††.

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† Monthly figures of discharge or contents only.

†† Unpublished.

b/ Approximately.

1/ In files of St. Paul office of Corps of Engineers.

Gaging station	Drainage area (sq mi)	Period of record
Mississippi River--Continued.		
Crow Wing River basin--Continued.		
Lakes in Crow Wing River basin--Continued.		
Sibley Lake near Pequot Lakes (Pequot), Minn.	-	1937-39*; 1941-46* ††.
Mayo Lake near Pequot Lakes (Pequot), Minn.	-	1937-47*.
Clark Lake at Lake Hubert (Hubert), Minn.	-	1937-47*.
Clark Lake near Nisswa, Minn.	-	1937* ††; 1938*; 1939-42* ††; 1947* ††.
Hubert Lake at Lake Hubert, Minn.	-	1943-48*.
Mississippi River near Fort Ripley, Minn.	b/11,010	1909-10; 1929; (1906-*)k/.
Nokasippi River basin		
Nokasippi River near Fort Ripley, Minn.	210	1929.
Lakes in Nokasippi River basin:		
Clearwater Lake near Deerwood, Minn.	-	1937-39*; 1939-47* ††.
Eagle Lake near Deerwood, Minn.	-	1937-39*; 1939-46* ††.
Nokay Lake near Deerwood, Minn.	-	1937-39*; 1939-46* ††.
Heron Lake near Deerwood, Minn.	-	1937-39*; 1939-46* ††.
Upper Long Lake near Brainerd, Minn.	-	1937-39*; 1939-47* ††.
Lower Long Lake near Brainerd, Minn.	-	1937-47*.
Round Lake near St. Mathias, Minn.	-	1937-47*.
Grave Lake near Brainerd, Minn.	-	1937-39*; 1940-47* ††.
Lakes in Swan River basin		
Big Swan Lake near Burtrum, Minn.	-	1938-39*; 1939-47* ††.
Pillsbury (Little Swan) Lake near Swanville, Minn.	-	1937-39*; 1939-47* ††.
Mississippi River near Royalton, Minn.	b/11,600	1924-
Lake in Spunk Creek basin		
Big Spunk Lake near Avon, Minn.	-	1937-47*.
Platte River basin		
Platte (Platt) River at Royalton, Minn.	388	1929-36.
Lake in Platte River basin:		
Sullivan Lake near Harding, Minn.	-	1938-42*; 1942-47* ††.
Mississippi River near Sauk Rapids, Minn.	b/12,400	1903-6.
Lake in Watab River basin		
Watab Lake near Cold Spring, Minn.	-	1937-39*; 1939-47* ††.
Mississippi River at Sartell, Minn.	b/12,450	1929; 1943-47* ††.
Sauk River basin		
Sauk River near St. Cloud, Minn.	925	1909-13; 1929-
Lakes in Sauk River basin:		
Diversion from Long Prairie River near Osakis, Minn.	-	1939-42*; 1942-47* ††.
Osakis Lake near Osakis, Minn.	-	1938-46*; 1944-48* ††.
Big Birch Lake near Ward Springs, Minn.	-	1937-47*.
Eden Lake near Eden Valley, Minn.	-	1938-39*; 1939-47* ††.
Grand Lake near Rockville, Minn.	-	1937-42*; 1942-47* ††.
Clearwater River basin		
Clearwater River at Clearwater, Minn.	-	1937, 1940-42* ††.
Lake in Clearwater River basin:		
Clearwater Lake near Annandale, Minn.	-	1938-39*; 1940* ††.
Elk River basin		
Elk River above St. Francis River, near Big Lake, Minn.	-	1929.
Elk River near Big Lake, Minn.	615	1911-17; 1931-
Mississippi River at Elk River, Minn.	b/14,500	1915-
Crow River basin		
North Fork Crow River near Regal, Minn.	215	1943-54.
North Fork Crow River near Rockford, Minn.	-	1909-10*.
Middle Fork Crow River at New London, Minn.	-	1939-42*; 1942-47* ††.
Middle Fork Crow River (Calhoun Lake Diversion) near Spicer, Minn.	-	1939*; 1939-46* ††.
Middle Fork Crow River near Spicer, Minn.	179	1949-
South Fork Crow River at Cosmos, Minn.	221	1945-
South Fork Crow River near Mayer, Minn.	b/1,170	1934-
South Fork Crow River near Rockford, Minn.	-	1909-12.
Crow River at Rockford, Minn.	b/2,520	1909-17; 1929-
Crow River near Dayton, Minn.	-	1906.
Lakes in Crow River basin:		
Green Lake near Spicer, Minn.	-	1938-47*.
Calhoun Lake Outlet near Spicer, Minn.	-	1939*; 1939-47* ††.
Koronis Lake near Paynesville, Minn.	-	1942-47*.
Waverly (Little Waverly) Lake near Waverly, Minn.	-	1938-39*; 1939-47* ††.
Deer Lake near Buffalo, Minn.	-	1940-47*.
Mississippi River at Anoka, Minn.	-	1905-13; (1896-97)1/.

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†† Unpublished.
b/ Approximately.
1/ In files of St. Paul office of Corps of Engineers.
k/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Rum River basin		
Mille Lacs Lake (head of Rum River) at Garrison (Wealthwood), Minn.	-	1931- *
Rum River at Onamia, Minn.	414	1909-12.
Rum River at Cambridge, Minn.	b/1,160	1909-14.
Rum River at St. Francis, Minn.	-	1903.
Rum River near St. Francis, Minn.	b/1,360	1929-
Rum River near Anoka, Minn.	b/1,430	1905-6; 1909.
Lakes in Rum River basin:		
Ogechie Lake near Onamia, Minn.	-	1938-39*; 1939-43* ††.
Francis Lake near Isanti, Minn.	-	1938-39*; 1939-47* ††.
Lake in Elm Creek basin		
Champlin Mill Pond at Champlin, Minn.	-	1938-39*; 1939-42* ††.
Mississippi River near Anoka, Minn.	b/19,100	1931-
Minnehaha Creek basin		
Minnetonka Lake (head of Minnehaha Creek) near Wayzata (at Excelsior), Minn.	-	1938- *; (1881-1938*) <u>k</u> /.
Minnehaha Creek at Minnetonka Mills, Minn.	-	1953-
Minnesota River basin		
Little Minnesota River (head of Minnesota River)		
near Peever, S. Dak.	447	1939-
Whetstone River near Corona, S. Dak.	-	1953-
Whetstone River near Big Stone City, S. Dak.	389	1910-12; 1931- ; (1899-1904) <u>f</u> /.
Big Stone Lake at Ortonville, Minn.	-	1937- *
Minnesota River at Ortonville, Minn.	b/1,160	1938-
Minnesota River near Odessa, Minn.	b/1,340	1909-12; 1944-
Yellow Bank River near Odessa, Minn.	398	1939-
Pomme de Terre River near Morris, Minn.	-	1937-39*; 1939-47* ††.
Pomme de Terre River at (near) Appleton, Minn.	b/905	1931-
Lakes in Pomme de Terre basin:		
Long Lake near Dalton, Minn.	-	1938-39*; 1939-47* ††.
Stalker Lake near Dalton, Minn.	-	1937-39*; 1940-47* ††.
Ten Mile Lake near Dalton, Minn.	-	1939*; 1940-47* ††.
Christina Lake near Ashby, Minn.	-	1937-43*; 1943-46* ††.
Pelican Lake near Ashby, Minn.	-	1937-39*; 1941-47* ††.
Melby Lake near Ashby, Minn.	-	1937-39*; 1939-47* ††.
Pomme de Terre (upper) Lake near Elbow Lake, Minn.	-	1937-39*; 1939-47* ††.
Perkins (Lower Pomme de Terre) Lake near Morris, Minn.	-	1938-47*.
Barrett Lake at Barrett, Minn.	-	1937-47*.
Drywood Lake near Alberta, Minn.	-	1937-39*; 1939-47* ††.
Lac qui Parle River:		
Canby Creek at Canby, Minn.	-	1938-39*; 1939-46* ††.
Lac qui Parle River near Lac qui Parle, Minn.	983	1910-14; 1931-
Tennile Creek near Boyd, Minn.	82.8	1949-51.
Minnesota River near Lac qui Parle, Minn.	b/4,050	1942-
Chippewa River:		
Moses Lake diversion near Brandon, Minn.	-	1938-39*; 1939-41* ††.
Little Chippewa River near Lowry, Minn.	-	1941.
Little Chippewa River near Starbuck, Minn.	111	1938-39.
Chippewa River at diversion dam, near Hancock, Minn.	-	1938-39*; 1940-46* ††.
Chippewa River at Benson, Minn.	b/1,270	1949-51.
Shakopee Creek near Benson, Minn.	352	1949-54.
Chippewa River near Milan, Minn.	b/1,870	1937-
Chippewa River near Watson, Minn.	2,046	1910-17; 1931-36.
Lakes in Chippewa River basin:		
Moses Lake Inlet near Brandon, Minn.	-	1938-39*; 1939-41* ††.
Moses Lake near Brandon, Minn.	-	1937-39*; 1941-47* ††.
Upper Hunt Lake near Brandon, Minn.	-	1937-39*; 1939-47* ††.
Chippewa Lake near Brandon, Minn.	-	1937-39*; 1939-47* ††.
Little Chippewa Lake near Brandon, Minn.	-	1937-39*; 1941-46* ††.
Stowes Lake near Evansville, Minn.	-	1937-39*; 1939-47* ††.
Long Lake near Evansville, Minn.	-	1937-42*; 1942-47* ††.
Albert Lake near Erdahl, Minn.	-	1938-46*.
Minister Lake near Brandon, Minn.	-	1938-39*; 1939-42* ††.
Emily Lake near Hancock, Minn.	-	1937-47*.
Scandinavian Lake near Gilchrist, Minn.	-	1937-39*; 1939-46* ††.
Minnesota River at (near) Montevideo, Minn.	b/6,180	1909-
Yellow Medicine River near Cottonwood, Minn.	465	1945-46.
Spring Creek (Stoney Run) near Clarkfield, Minn.	89.0	1945-46.

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†† Unpublished.

b/ Approximately.

f/ In reports of Minnesota State Drainage Commission.

k/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Minnesota River basin--Continued.		
Yellow Medicine River--Continued.		
Spring Creek (Stoney Run) near Hazel Run, Minn.	101	1945-48.
Yellow Medicine River near Hanley Falls, Minn.	606	1945-47.
Yellow Medicine River near Granite Falls, Minn.	653	1931-
Hawk Creek:		
Chetomba Creek near Maynard, Minn.	b/200	1949-51.
Hawk Creek near Maynard, Minn.	474	1949-54.
Redwood River at Marshall, Minn.	307	1940-
Redwood River near Green Valley, Minn.	436	1945-47.
Redwood River near Seaforth, Minn.	573	1945-46.
Redwood River near Redwood Falls, Minn.	697	1909-14; 1930-
Cottonwood River near New Ulm, Minn.	b/1,280	1909-13; 1931-
Minnesota River at Judson, Minn.	b/11,200	1938-50.
Blue Earth River:		
East Fork Blue Earth River near Bricelyn, Minn.	132	1951-
Watonwan River at diversion dam, near Danfur, Minn.	-	1940-42, 1944, 1945* ††.
Watonwan River at diversion dam, near St. James, Minn.	-	1939*; 1939-46* ††.
Watonwan River near Garden City, Minn.	812	1940-45.
Blue Earth River near Rapidan (at Rapidan Mill), Minn.	b/2,430	1909-10; 1939-45; 1949-
LeSueur River near Rapidan, Minn.	b/1,100	1939-45; 1949-
Blue Earth River at Mankato, Minn.	b/3,550	1938-39*; 1939-42* ††.
Lakes in Blue Earth River basin:		
Fox Lake near Sherburne, Minn.	-	1939*; 1939-47* ††.
Mountain Lake at Mountain Lake, Minn.	-	1938-39*; 1939-46* ††.
Wood Lake near Danfur, Minn.	-	1937-39*; 1939-47* ††.
Francis Lake at Elysian, Minn.	-	1940-47*.
Madison Lake near Madison Lake, Minn.	-	1940- *
Cottonwood Lake near Mapleton, Minn.	-	1939*; 1939-47* ††.
Silver Lake near Waldorf, Minn.	-	1938-39*; 1941-47* ††.
Minnesota River at (near) Mankato, Minn.	b/14,900	1905-
Lakes between Blue Earth River and Sand Creek:		
Scotch Lake near Cleveland, Minn.	-	1938-39*; 1939-47* ††.
Greenleaf Lake near Montgomery, Minn.	-	1939*; 1940-47* ††.
High Island Lake near New Auburn, Minn.	-	1939*; 1940-47* ††.
Sand Creek at diversion dam, near Jordan, Minn.	-	1938-39*, 1940-46* ††.
Lakes in Sand Creek basin:		
Phelps Lake near Montgomery, Minn.	-	1937-39*; 1940-47* ††.
Mud Lake near Montgomery, Minn.	-	1939*; 1939-46* ††.
Pleasant Lake near Jordan, Minn.	-	1938-39*; 1940-47* ††.
Cedar Lake near St. Patrick, Minn.	-	1938-39*; 1942-47* ††.
Cynthia Lake near Prior Lake, Minn.	-	1937-47*.
Minnesota River near Carver, Minn.	b/16,200	1934-
Lake below Sand Creek:		
Prior Lake (Lower) at Prior Lake, Minn.	-	1939-51*.
Mississippi River at St. Paul, Minn.	b/36,800	1887-
Phalen Creek basin		
Keller Lake at St. Paul, Minn.	-	1938-39*; 1940* ††.
St. Croix River basin		
St. Croix River:		
Namekagon River at Trego, Wis.	b/460	1914-27.
Namekagon River near Trego, Wis.	b/503	1927-
McKenzie Creek:		
Big McKenzie Lake near Spooner, Wis.	b/25	1936-40*; 1941- ††
St. Croix River near Danbury (at Swiss), Wis.	b/1,588	1914-
Yellow River:		
Sawyer Creek:		
Shell Lake at Shell Lake, Wis. (no outlet).	b/14	1936- *
Yellow River at Webster, Wis.	b/228	1914*.
Yellow Lake near Webster, Wis.	b/258	1941- *
Clam River near Webster, Wis.	b/364	1940-42.
St. Croix River near Grantsburg, Wis.	b/2,820	1923-
Kettle River near Sandstone, Minn.	825	1908-17.
Grindstone River at Hinkley, Minn.	-	1940-47*.
Snake River at Mora, Minn.	422	1909-13.
Snake River at Sanatorium Bridge, near Pine City, Minn.	-	1937-38*.
Snake River near Pine City, Minn.	958	1913-17; 1951-
Wood River near Grantsburg, Wis.	b/190	1939.
St. Croix River near Rush City, Minn.	b/5,120	1923-
Sunrise River near Stacy, Minn.	94.7	1949-

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†† Unpublished.

b/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Mississippi River--Continued.</u>		
<u>St. Croix River basin--Continued.</u>		
St. Croix River at (near) St. Croix Falls, Wis.	b/5,930	1910- ; (1902-5; 1905-9†)f/.
Apple River:		
Fox Creek:		
Bone Lake near Luck, Wis.	b/15	1936-40*; 1941- ††
Apple River near Somerset, Wis.	b/555	1901-
Kinnikinnie River near River Falls, Wis.	b/170	1916-21.
Lakes in St. Croix River basin:		
Pine Lake near Finlayson, Minn.	-	1937-39*; 1939-47* ††.
Mud Lake near Quamba, Minn.	-	1937-39*; 1939-47* ††.
Rush Lake near Rush City, Minn.	-	1940-47*.
Martin Lake near Wyoming, Minn.	-	1939*; 1940-47* ††.
Mississippi River at Prescott, Wis.	b/44,800	1928-
Vermillion River basin		
Vermillion River near Empire City, Minn.	110	1942-45.
Vermillion River at Empire City, Minn.	124	1942-44.
Vermillion River at Hastings, Minn.	195	1942-47.
Cannon River basin		
Cannon River at Welch, Minn.	b/1,320	1909-14; 1930-
Lakes in Cannon River basin:		
Shields Lake near Shieldsville, Minn.	-	1937-39*; 1940-47* ††.
Rice Lake near Shieldsville, Minn.	-	1937-39*; 1939-47* ††.
Gorman Lake near Kilkenny, Minn.	-	1938-47*.
Sabre Lake near Kilkenny, Minn.	-	1937-39*; 1940-47* ††.
Jefferson Lake near Elysian, Minn.	-	1939*; 1941-47* ††.
Tetonka Lake at Waterville, Minn.	-	1937-47*.
Sakatah Lake near Waterville, Minn.	-	1937-47*.
Horseshoe Lake near Waterville, Minn.	-	1938-39*; 1940-46* ††.
Lower Sakatah Lake near Morristown, Minn.	-	1938-47*.
Morristown Mill Pond at Morristown, Minn.	-	1937-39*; 1939-46* ††.
Roberts Lake near Faribault, Minn.	-	1937-39*; 1940-47* ††.
Beaver Lake near Ellendale, Minn.	-	1940*; 1942-47* ††.
Goose Lake near Waseca, Minn.	-	1938-39*; 1940-47* ††.
Watkins Lake near Waseca, Minn.	-	1938-39*; 1939-47* ††.
Fox Lake near Dundas, Minn.	-	1937-39*; 1940-47* ††.
Circle Lake near Dundas, Minn.	-	1937-43*; 1943-47* ††.
Union Lake near Dundas, Minn.	-	1937-39*; 1940-47* ††.
<u>Chippewa River basin</u>		
<u>Chippewa River:</u>		
West Fork Chippewa River near Winter, Wis.	b/485	1911*; 1912-16.
Chippewa River at Bishops Bridge, near Winter, Wis.	b/787	1912-
Chippewa River near Bruce, Wis.	b/1,630	1913-
Pine Lake near Chetek, Wis. (no outlet)	b/3	1936-40*; 1941- * ††
Flambeau River:		
Flambeau River at Flambeau Reservoir, Wis.	b/666	1927-
Flambeau River near Butternut, Wis.	b/737	1914-38.
Flambeau River at Babb's Island, near Winter, Wis.	b/1,000	1929-
Connors Creek:		
Connors Lake near Phillips, Wis.	b/20	1936-40*; 1941- * ††
South Fork Flambeau River near Phillips, Wis.	b/615	1929-
Flambeau River near (at) Ladysmith, Wis.	b/1,823	1903-6; 1914-
Flambeau River near Bruce, Wis.	b/1,897	1951-
Chippewa River near Holcombe, Wis.	b/3,790	1944-49.
South Fork Jump River near Ogema, Wis.	b/328	1944-54.
Jump River at Sheldon, Wis.	b/574	1915-
Chippewa River at Holcombe, Wis.	b/4,700	1942-49.
Fisher River at Holcombe, Wis.	b/76	1944-45.
O'Neil Creek near Chippewa Falls, Wis.	67.1	1944-45.
Yellow River at Cadott, Wis.	b/351	1942-
Duncan Creek at Bloomer, Wis.	49.2	1944-51.
Duncan Creek at Chippewa Falls, Wis.	114	1942-55.
Chippewa River at Chippewa Falls, Wis.	b/5,600	1888-
Eau Claire River near Augusta, Wis.	b/500	1914-26.
Eau Claire River near Fall Creek, Wis.	b/747	1942-55.
Chippewa River at (near) Eau Claire, Wis.	b/6,630	1902-9; 1944-54.

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† Monthly figures of discharge or contents only.

†† Unpublished.

b/ Approximately.

f/ In reports of Minnesota State Drainage Commission.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Mississippi River--Continued.</u>		
<u>Chippewa River basin--Continued.</u>		
Red Cedar River near Colfax, Wis.	1,100	1914-
Hay River at Wheeler, Wis.	b/430	1950-
Red Cedar River at Cedar Falls, Wis.	-	1909-23*.
Red Cedar River at Menomonie, Wis.	b/1,760	1907-8; 1913-23; 1925-
Chippewa River at Durand, Wis.	b/9,010	1928-
Eau Galle River at Spring Valley, Wis.	64.8	1944-
Eau Galle River at Elmwood, Wis.	91.9	1942-53.
Reservoirs (9) in Chippewa River basin	-	1939- †
Mississippi River at Wabasha, Minn.	b/56,600	1934.
<u>Buffalo River basin</u>		
Buffalo River near Tell, Wis.	406	1932-51.
Mississippi River at Alma, Wis.	b/57,100	1930-31.
<u>Zumbro River basin</u>		
South Fork Zumbro River near Rochester, Minn.	-	1952-
South Fork (Branch) Zumbro River near Zumbro Falls, Minn.	821	1911-17.
Zumbro River at Zumbro Falls, Minn.	b/1,130	1909-17; 1929-
Zumbro River at Theilman, Minn.	b/1,320	1938-
<u>Lakes in Zumbro River basin:</u>		
Shady Lake (Middle Branch Zumbro River) at Oronoco, Minn.	-	1939-47*.
Silver Lake at Rochester, Minn.	-	1938-39*; 1941-47* ††.
<u>Whitewater River basin</u>		
North Fork Whitewater River near Elba, Minn.	101	1939-41.
South Fork Whitewater River near Altura, Minn.	76.8	1939-
Beaver Creek at Beaver, Minn.	15.4	1939-40.
Whitewater River at Beaver, Minn.	288	1939- ; (1936-39*) 1/.
Mississippi River near Fountain City, Wis.	b/59,100	1930-31.
Mississippi River at Winona, Minn.	b/59,200	1928-
<u>Gilmore Creek basin</u>		
Gilmore Creek at Winona, Minn.	8.95	1939-
<u>Trempealeau River basin</u>		
Trempealeau River at Dodge, Wis.	643	1913*; 1913-19; 1934-
Trempealeau River near Trempealeau, Wis.	722	1931-34.
Mississippi River at Lamole, Minn.	b/60,000	1930-31.
<u>Black River basin</u>		
Black River at Millsville, Wis.	b/756	1905-9; 1913-
Black River at Melrose, Wis.	-	1902-3*.
Black River near Galesville, Wis.	b/2,120	1931-
<u>La Crosse River basin</u>		
<u>La Crosse River:</u>		
Little La Crosse River near Leon, Wis.	77.1	1934-
La Crosse River near West Salem, Wis.	398	1913*; 1914-
Mississippi River at La Crosse, Wis.	b/62,800	1929-55.
<u>Root River basin</u>		
Root River (North Branch) near Lanesboro, Minn.	615	1910-17; 1940-
Rush Creek near Rushford, Minn.	129	1942-
Root River near Houston, Minn.	b/1,270	1909-17; 1929-
South Fork Root River near Houston, Minn.	b/275	1953-
Root River below South Fork, near Houston, Minn.	b/1,560	1938-
<u>Coon Creek basin</u>		
Coon Creek at Coon Valley, Wis.	77.2	1934-40.
Coon Creek near Stoddard, Wis.	119	1934-40.
<u>Upper Iowa River basin</u>		
Upper Iowa River at Decorah, Iowa.	b/500	1951-
Upper Iowa River near Decorah, Iowa.	b/560	1913-14; 1919-27; 1933-51.
<u>Paint Creek basin</u>		
Paint Creek at Waterville, Iowa.	42.7	1952-
<u>Yellow River basin</u>		
Yellow River at Ion, Iowa.	224	1934-51.
Mississippi River at McGregor, Iowa.	b/67,500	1936-
Mississippi River at Genoa, Wis.	b/64,700	1930-31.
<u>Wisconsin River basin</u>		
<u>Wisconsin River:</u>		
<u>Eagle River:</u>		
Anvil Lake near Eagle River, Wis. (no outlet).	b/3	1936- *

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

b/ Approximately.

1/ In files of St. Paul office of Corps of Engineers.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Wisconsin River basin--Continued.		
Wisconsin River at Rainbow Reservoir, near Lake Tomahawk, Wis.	b/750	1936-
Wisconsin River near Rhinelander, Wis.	b/1,110	1905-15.
Wisconsin River at Whirlpool Rapids, near Rhinelander, Wis.	b/1,200	1915-
Tomahawk River:		
Tomahawk River near Bradley, Wis.	b/422	1914-27; 1928-29.
Tomahawk River at Bradley (Tomahawk), Wis.	b/554	1930-
Spirit River at Spirit Falls, Wis.	b/82	1942-
New Wood River near Merrill, Wis.	b/83	1952-
Prairie River near Merrill, Wis.	b/164	1914-31; 1939-
Wisconsin River at Merrill, Wis.	b/2,780	1902-3*; 1904-8†; 1909-
Rib Lake (head of Rib River) at Rib Lake, Wis.	b/33	1936-40*; 1941- * ††
Rib River at Rib Falls, Wis.	b/309	1925-
Little Rib River near Wausau, Wis.	b/76	1914-16.
Eau Claire River near Antigo, Wis.	b/86	1949-55.
Eau Claire River at Kelly, Wis.	b/326	1914-26; 1939-
Wisconsin River at Rothschild, Wis.	b/4,000	1944-
Bull Creek Jr., near Rothschild, Wis.	b/26.4	1944-52.
Big Eau Pleine River near Colby, Wis.	b/79	1941-54.
Big Eau Pleine River near Stratford, Wis.	b/224	1914-25; 1937-
Wisconsin River at Knowlton, Wis.	b/4,520	1921-42.
Plover River near Stevens Point, Wis.	b/136	1914-19; 1944-51.
Wisconsin River near Nekoosa, Wis.	b/5,500	1914-50.
Wisconsin River near Necedah, Wis.	b/5,860	1902*; 1902-14; 1944-50.
Yellow River at Babcock, Wis.	b/223	1944-
Yellow River at Sprague, Wis.	b/420	1926-40.
Yellow River at Necedah, Wis.	b/526	1940-
Lemonweir River at New Lisbon, Wis.	b/486	1944-
Wisconsin River near Wisconsin Dells, Wis.	b/7,830	1934-
Baraboo River:		
Devils Lake near Baraboo, Wis. (no outlet).	5.64	1922-30*; 1932*; 1934- *
Baraboo River near Baraboo, Wis.	b/650	1913*; 1913-22; 1942-
Mud Lake (head of Rock Run) near Poynette, Wis.	10.0	1940*; 1941- * ††
Wisconsin River at Prairie du Sac, Wis.	b/8,950	1946-53.
Black Earth Creek at Black Earth, Wis.	45.9	1954-
Wisconsin River at Muscoda, Wis.	b/10,300	1902-3*; 1913*; 1913-
Kickapoo River at Ontario, Wis.	151	1938-39.
Kickapoo River at La Parge, Wis.	266	1938-
West Fork Kickapoo River:		
Knapp Creek near Bloomingdale, Wis.	-	1955-
West Fork Kickapoo River near Readstown, Wis.	106	1938-39.
Kickapoo River at Soldiers Grove, Wis.	530	1938-39.
Kickapoo River at Gays Mills, Wis.	616	1913-34.
Kickapoo River at Steuben, Wis.	690	1933-
Reservoirs (21) in Wisconsin River basin	-	1940- †
Mississippi River at Clayton, Iowa.	b/69,200	1930-36.
Turkey River basin		
Turkey River at Elkader, Iowa.	892	1933-42.
Turkey River at Garber, Iowa.	b/1,530	1913-16; 1919-27; 1932- ; (1929-30)m/.
Grant River basin		
Grant River near Burton, Wis.	257	1934-47.
Grant River at Burton, Wis.	267	1947-
Platte River basin		
Platte River near Rockville, Wis.	139	1934-
Little Maquoketa River basin		
Little Maquoketa River near Durango, Iowa.	b/130	1934-
Galena River basin		
Galena River at Buncombe, Wis.	128	1939-
East Fork Galena River at Council Hill, Ill.	20.1	1939-
Galena River at Galena, Ill.	200	1934-38; 1938-39*.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

b/ Approximately.

m/ In reports of Iowa State Planning Board.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Maquoketa River basin		
Maquoketa River at Manchester, Iowa.	269	1903.
Maquoketa River near Manchester, Iowa.	306	1933-
Maquoketa River near Delhi, Iowa.	348	1933-40.
Maquoketa River above North Fork Maquoketa River near Maquoketa, Iowa.	957	1913-14.
Maquoketa River near Maquoketa, Iowa.	b/1,550	1913-
Apple River basin		
Apple River near Hanover, Ill.	244	1934-
Plum River basin		
Plum River near Savanna, Ill.	164	1934-41.
Plum River below Carroll Creek, near Savanna, Ill.	231	1941-
Mississippi River at Clinton, Iowa.	b/85,600	1939-
Wapsipinicon River basin		
Wapsipinicon River at Independence, Iowa.	b/1,060	1933-
Wapsipinicon River at Stone City, Iowa.	b/1,310	1903-14.
Wapsipinicon River near Dewitt, Iowa.	b/2,300	1934-
Mississippi River at Le Claire, Iowa.	b/88,600	1932-39; (1873-1932)m/.
Rock River basin		
West Branch Rock River near Waupun, Wis.	b/42	1949-
South Branch Rock River at Waupun, Wis.	b/56	1949-
East Branch Rock River near Mayville, Wis.	b/177	1949-
Oconomowoc River:		
Beaver Lake near Hartland, Wis.	b/3	1933-40*; 1941- * ††
Pine Lake near Hartland, Wis.	b/6	1931-40*; 1941- * ††
Rock River at Watertown, Wis.	b/971	1914*; 1931-
Crawfish River at Milford, Wis.	b/732	1931-
Bark River:		
Whitewater Creek near Whitewater, Wis.	-	1926-28; 1946-54.
Whitewater Creek at Whitewater, Wis.	-	1926-28; 1946-54.
Koshkonong Creek:		
Lake Ripley near Cambridge, Wis.	b/1.5	1936-40*; 1941- * ††
Yahara River:		
Lake Mendota at Madison, Wis.	b/254	1902-3*; 1916- *
Yahara (Catfish) River at Madison, Wis.	b/254	1902-3*.
Lake Monona at Madison, Wis.	b/273	1915- *; (1856-1917*)n/.
Yahara River near McFarland, Wis.	b/351	1930-
Yahara River near Edgerton, Wis.	b/460	1916-17.
Rock River at Afton, Wis.	b/3,300	1914-
Turtle Lake (head of Turtle Creek) near Delavan, Wis.	b/1.3	1936*; 1938-40*; 1941- * ††
Turtle Creek near Clinton, Wis.	186	1939-
Rock River above Pecatonica River, at Rockton, Ill.	-	1903.
Pecatonica River at Darlington, Wis.	274	1939-
East Branch Pecatonica River near Blanchardville, Wis.		
Yellowstone River near Blanchardville, Wis.	221	1939-
Pecatonica River at Dill, Wis.	29.1	1954-
Pecatonica River at Martintown, Wis.	959	1914-19.
Pecatonica River at Winslow, Ill.	b/1,040	1939-
Cedar Creek near Winslow, Ill.	1.29	1951- ††
Pecatonica River at Freeport, Ill.	b/1,330	1914-
Sugar River:		
Mt. Vernon Creek near Mt. Vernon, Wis.	16.1	1954-
Sugar River near Brodhead, Wis.	536	1914-
Pecatonica River at Shirland, Ill.	b/2,540	1939-
Rock River at Rockton, Ill.	b/6,290	1903-9; 1940-
Rock River at Rockford, Ill.	b/6,520	1914-19.
Kishwaukee River at Belvidere, Ill.	525	1939-
South Branch Kishwaukee River at DeKalb, Ill.	b/70	1925-33.
South Branch Kishwaukee River near Fairdale, Ill.	386	1939-
Kishwaukee River near Perryville, Ill.	b/1,090	1939-
Killbuck Creek near Monroe Center, Ill.	114	1939-
Leaf River at Leaf River, Ill.	102	1939-
Rock River at Oregon, Ill.	b/8,120	1939-49.
Kyte River near Flagg Center, Ill.	125	1939-51.
Rock River near Nelson, Ill.	-	1906.
Rock River at Sterling, Ill.	-	1905-6.
Rock River at Como, Ill.	b/8,700	1933-
Elkhorn Creek near Penrose, Ill.	153	1939-
Rock River at Lyndon, Ill.	b/9,010	1914-34.
Rock Creek near Coleta, Ill.	81.6	1939-42.

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

b/ Approximately.

m/ In reports of Iowa State Planning Board.

n/ In reports of Wisconsin Railroad Commission.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Mississippi River--Continued.</u>		
<u>Rock River basin--Continued.</u>		
<u>Rock Creek--Continued.</u>		
Rock Creek near Morrison, Ill.	143	1942-
Rock Creek at Morrison, Ill.	169	1940-42.
Rock River near Joslin, Ill.	b/9,520	1939-
Green River at Amboy, Ill.	199	1939-
Green River near Geneseo, Ill.	958	1936-
Mill Creek at Milan, Ill.	62.5	1939-
<u>Iowa River basin</u>		
West Fork Iowa River near Klemme, Iowa	b/110	1948-
East Fork Iowa River near Klemme, Iowa	b/120	1948-
Iowa River near Rowan, Iowa.	396	1940-
Iowa River near Iowa Falls, Iowa	641	1911-14.
<u>Pine Creek:</u>		
Upper Pine Lake at Eldora, Iowa.	-	1936- *
Lower Pine Lake at Eldora, Iowa.	-	1936- *
Iowa River at Marshalltown, Iowa	b/1,530	1903; 1915-27; 1933-
Salt Creek near Elberon, Iowa.	b/200	1945-
Iowa River near Belle Plaine, Iowa	b/2,420	1939-
Bear Creek at Ladora, Iowa	185	1945-
<u>Mill Creek:</u>		
Lake Macbride near Solon, Iowa	-	1936- *
Rapid Creek near Iowa City, Iowa	24.5	1938-
Iowa River at Iowa City, Iowa.	b/3,230	1903-6; 1913- ; (1906-13)m/.
Ralston Creek at Iowa City, Iowa	3.01	1932- ; (1924-32)o/.
English River at Kalona, Iowa.	b/580	1939-
<u>Cedar River:</u>		
<u>Turtle Creek:</u>		
Geneva Lake near Clarks Grove, Minn.	-	1939*; 1940-47* ††.
Turtle Creek near Austin, Minn.	-	1948-51.
Cedar River near Austin, Minn.	425	1909-14; 1944-
Cedar River at Mitchell, Iowa.	845	1933-42.
Little Cedar River near Ionia, Iowa.	328	1954-
Cedar River at Janesville, Iowa.	b/1,660	1905-6; 1915-27; 1932-42; 1946-
Shell Rock River near Northwood, Iowa.	b/380	1948-
Lime Creek at Mason City, Iowa	535	1932-
<u>Willow Creek:</u>		
<u>Clear Creek:</u>		
Clear Lake at Clear Lake, Iowa	-	1933- *
Shell Rock River at Marble Rock, Iowa.	b/1,330	1942-53.
Shell Rock River at Greene, Iowa	b/1,575	1933-42.
Shell Rock River near Clarksville, Iowa.	b/1,660	1915-27; 1932-34.
Shell Rock River at Shell Rock, Iowa	b/1,770	1953-
West Fork Shell Rock River at Finchford, Iowa.	b/860	1945-
Beaver Creek at New Hartford, Iowa	b/350	1948-
Blackhawk Creek at Hudson, Iowa.	295	1952-
Cedar River at Waterloo, Iowa.	b/5,190	1941-
Cedar River at Cedar Rapids, Iowa.	b/6,640	1903-
Cedar River near Conesville, Iowa.	b/7,840	1939-
Iowa River at Wapello, Iowa.	b/12,480	1915-
<u>Edwards River basin</u>		
Edwards River near Orion, Ill.	163	1941-
Edwards River near New Boston, Ill.	434	1934-
<u>Pope Creek basin</u>		
Pope Creek near Keithsburg, Ill.	171	1934-
<u>Henderson Creek basin</u>		
Henderson Creek near Little York, Ill.	151	1940-
North Henderson Creek near Seaton, Ill.	66.4	1940-51.
Cedar Creek at Little York, Ill.	128	1940-
Henderson Creek near Oquawka, Ill.	428	1934-
South Henderson Creek at Biggsville, Ill.	81.4	1939-
<u>Skunk River basin</u>		
Skunk River near Ames, Iowa.	322	1920-27; 1933-
Squaw Creek at Ames, Iowa.	b/210	1919-27.
Skunk River below Squaw Creek, near Ames, Iowa	565	1952-
Skunk River near Oskaloosa, Iowa	b/1,640	1948-
<u>Unnamed stream:</u>		
Lake Keomah near Oskaloosa, Iowa	-	1936- *

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

b/ Approximately.

m/ In reports of Iowa State Planning Board.

o/ In University of Iowa Engineering Bulletin No. 9.

UPPER MISSISSIPPI RIVER BASIN

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<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Skunk River basin--Continued.		
North Skunk River near Sigourney, Iowa	b/750	1945-
Skunk River at Coppock, Iowa	b/2,890	1913-44.
Big Creek near Mt. Pleasant, Iowa	106	1955-
Skunk River at Augusta, Iowa	b/4,290	1913; 1915-
Mississippi River at Keokuk, Iowa	b/119,000	1932- ; (1878-1932)m/.
Des Moines River basin		
West Fork Des Moines River:		
Heron Lake Outlet near Heron Lake, Minn.	457	1930-33; 1934-43.
West Fork Des Moines River (Des Moines River) near Jackson, Minn.	b/1,190	1930-44.
West Fork Des Moines River (Des Moines River) at Jackson, Minn.	b/1,220	1909-13; 1944-
West Fork Des Moines River at Estherville, Iowa	1,408	1951-
East Fork Des Moines River:		
Tuttle Lake near Ceylon, Minn.	-	1930- *
Tuttle Lake near Dolliver, Iowa	-	1933-34*.
East Fork Des Moines River near Burt, Iowa	466	1951-
East Fork Des Moines River near Hardy, Iowa	b/1,230	1940-54.
East Fork Des Moines River at Dakota City, Iowa . . .	1,262	1954-
Des Moines River near Fort Dodge, Iowa	b/3,770	1911-13.
(North) Lizard Creek near Clare, Iowa	257	1940-
Des Moines River at Fort Dodge (Kalo), Iowa	4,207	1905-6; 1913-27; 1949-
Boone River near Webster City, Iowa	842	1940-
Des Moines River near Boone, Iowa	b/5,490	1920-27; 1933-
Des Moines River at Des Moines, Iowa	b/6,180	1902-3; 1905-6; 1914- 27; 1932- ; (1893- 94; 1897-1914)m/.
Raccoon River near Jefferson, Iowa	b/1,630	1940-
East Fork Hardin Creek near Churdan, Iowa	22.7	1952-
South Raccoon River:		
Middle Raccoon River:		
Unnamed stream:		
Springbrook Lake near Guthrie Center, Iowa	-	1936- *
South Raccoon River at Redfield, Iowa	995	1940-
Raccoon River at Van Meter, Iowa	b/3,410	1915-27; 1932- ; (1927-32)m/.
Raccoon River at Des Moines, Iowa	b/3,590	1902-3.
Des Moines River below Raccoon River, at Des Moines, Iowa	b/9,770	1940-
North River near Norwalk, Iowa	348	1940-
Middle River near Indianola, Iowa	502	1940-
South River:		
Squaw Creek:		
Unnamed stream:		
Lake Ahquabi near Indianola, Iowa	-	1936- *
South River near Ackworth, Iowa	475	1940-
Whitebreast Creek near Knoxville, Iowa	b/380	1945-
Des Moines River near Tracy, Iowa	b/12,400	1920-27; 1933-35; 1940-
Cedar Creek near Bussey, Iowa	384	1947-
Des Moines River at Ottumwa (Eldon), Iowa	b/13,200	1917-27; 1929- ; (1927-29)m/.
Soap Creek:		
Unnamed stream:		
Lake Wapello near Drakesville, Iowa	-	1936- *
Des Moines River at Keosauqua, Iowa	b/13,900	1903-6; 1910-
Sugar Creek near Keokuk, Iowa	113	1922-26.
Lakes in Des Moines River basin:		
Yankton Lake near Balaton, Minn.	-	1940-47*.
Long Lake near Garvin, Minn.	-	1938-47*.
Lake Shetek at Currie, Minn.	-	1939-47*.
Talcot Lake near Dundee, Minn.	-	1940-46*.
Heron Lake near Heron Lake, Minn.	-	1938-48*.
Warren Lake at Windom, Minn.	-	1939*; 1939-46* ††.
Fox River basin		
Fox River at Cantril, Iowa	161	1940-51.
Fox River at (near) Wayland, Mo.	b/400	1922-
Bear Creek basin		
Bear Creek near Marcelline, Ill.	348	1944-
Wyaconda River basin		
Wyaconda River above Canton, Mo.	393	1932-

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

b/ Approximately.

m/ In reports of Iowa State Planning Board.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Mississippi River--Continued.</u>		
<u>Wyaconda River basin--Continued.</u>		
Wyaconda River near Canton, Mo.	447	1922-32.
<u>Fabius River basin</u>		
North Fabius River at Monticello, Mo.	452	1922-
Middle Fabius River near Baring, Mo.	185	1930-34*; 1934-
Middle Fabius River near Monticello, Mo.	393	1945-
North Fabius River at Taylor, Mo.	930	1930-42.
<u>South Fork South Fabius River:</u>		
North Fork South Fabius River at Edina, Mo.	b/72	1930-38*.
Little Fabius River near Edina, Mo.	25.2	1930-38*.
South Fabius River near Taylor, Mo.	620	1934-
<u>North River basin</u>		
North River at Bethel, Mo.	b/58	1930-36*; 1936-
North River at Palmyra, Mo.	373	1934-
<u>Bear Creek basin</u>		
Bear Creek near Hannibal, Mo.	b/14	1930-36*.
Bear Creek at Hannibal, Mo.	31.0	1938-42; 1947-
<u>Salt River basin</u>		
Salt River near Shelbyna, Mo.	481	1930-34*; 1934-
<u>Black Creek:</u>		
Douglas Creek near Emden, Mo.	2.69	1955-
Salt River near Hunnewell, Mo.	626	1930-31*; 1931-40.
Crooked Creek near Shelbyna, Mo.	b/70	1930-36*.
<u>South Fork Salt River:</u>		
Davis Creek near Mexico, Mo.	b/59	1930-37*; 1937-41.
South Fork Salt River at Santa Fe, Mo.	298	1939-
Long Branch near Paris, Mo.	70.3	1930-35*.
Youngs Creek near Mexico, Mo.	67.4	1930-36*; 1936-
Middle Fork Salt River at Paris, Mo.	356	1939-
Elk Fork Salt River near Paris, Mo.	262	1930-35*; 1935-54.
Salt River near Monroe City, Mo.	b/2,230	1939-
Salt River near New London, Mo.	b/2,480	1922-
Spencer Creek near Frankford, Mo.	b/200	1930-36*.
Peno Creek at Frankford, Mo.	54.2	1930-36*; 1936-38.
Mississippi River at Louisiana, Mo.	b/140,700	1934-35; (1890-95*; 1915-33*)k/.
<u>The Sny basin</u>		
Hadley Creek near Barry, Ill.	-	1955-
Hadley Creek at Kinderhook, Ill.	72.7	1939-
Hadley Creek near Shinn, Ill.	73.6	1941-46.
Hadley Creek near New Canton, Ill.	74.0	1941-42.
The Sny at Atlas, Ill.	451	1939-42.
Bay Creek at Pittsfield, Ill.	39.6	1939-
Bay Creek at Nebo, Ill.	162	1939-
<u>Kings Lake basin</u>		
Lost Creek at Elsberry, Mo.	12.2	1954-
<u>Cuivre River basin</u>		
West Fork Cuivre River near Laddonia, Mo.	b/32	1930-36*; 1936-39.
Cuivre River near Troy, Mo.	903	1922-
<u>Illinois River basin</u>		
<u>Kankakee River (head of Illinois River) near</u>		
North Liberty, Ind.	152	1951-
Kankakee River at Davis, Ind.	508	1905-6; 1931- ; (1925-29)p/.
<u>Yellow River near Bremen, Ind.</u>		
Yellow River near Bremen, Ind.	132	1955-
Yellow River at Plymouth, Ind.	284	1948-
Yellow River at Knox, Ind.	425	1905-8*; 1943-
Kankakee River at Dunns Bridge, Ind.	1,308	1948-
Kankakee River at Shelby, Ind.	1,753	1930- ; (1922-30)p/.
Singleton ditch near Hebron, Ind.	34.0	1948-51.
Singleton ditch at Schneider, Ind.	122	1948-
West Creek near Schneider, Ind.	54.5	1948-51; 1954-
Singleton ditch at Illinois, Ill.	219	1944-
Kankakee River at Momence, Ill.	b/2,340	1905-6; 1914-
Iroquois River at Rosebud, Ind.	30.3	1948-
Oliver ditch near Aix, Ind.	66.3	1948-51.
Iroquois River near North Marion, Ind.	134	1948-
Iroquois River at Rensselaer, Ind.	194	1948-
<u>Big Slough:</u>		
Bice ditch near South Marion, Ind.	22.6	1948-
Big Slough Creek near Collegeville, Ind.	84.1	1948-

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

b/ Approximately.

k/ In reports of U. S. Weather Bureau.

- In reports of Indiana Department of Conservation.

<u>Gaging station</u>	<u>Drainage area (sq. mi.)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Illinois River basin--Continued.		
Iroquois River--Continued.		
Big Slough--Continued.		
Carpenter Creek at Egypt, Ind.	48.1	1948-
Iroquois River near Foresman, Ind.	410	1948-
Iroquois River at Iroquois, Ill.	682	1944-
Sugar Creek at Milford, Ill.	430	1948-
Iroquois River near Chebanse, Ill.	b/2,120	1923-
Terry Creek near Custer Park, Ill.	12.0	1949-
Kankakee River at Custer Park, Ill.	b/4,870	1914-33.
Kankakee River near Wilmington, Ill.	b/5,250	1935-
Des Plaines River near Ournee, Ill.	215	1945-
Buffalo Creek near Wheeling, Ill.	19.4	1952-
Des Plaines River near Des Plaines, Ill.	374	1940-
McDonald Creek near Mount Prospect, Ill.	7.52	1952-
Weller Creek at Des Plaines, Ill.	13.1	1950-
Willow Creek near Park Ridge, Ill.	19.6	1950-
Salt Creek near Arlington Heights, Ill.	33.7	1950-
Salt Creek at Western Springs, Ill.	122	1945-
Addison Creek at Bellwood, Ill.	18.2	1950-
Des Plaines River at Riverside, Ill.	635	1896-98; 1943-; (1886-90; 1892-1936)g/.
Flag Creek near Willow Springs, Ill.	16.2	1951-
Des Plaines River at Lemont, Ill.	687	1914-44.
Des Plaines River at Romeo, Ill.	-	1914.
Chicago Sanitary and Ship Canal:		
North Branch Chicago River at Deerfield, Ill.	20.7	1952-
Skokie River at Lake Forest, Ill.	12.8	1951- r/
West Fork of North Branch Chicago River at Northbrook, Ill.	11.5	1952-
North Branch Chicago River at Niles, Ill.	102	1950- s/
Calumet Sag Channel:		
Tinley Creek near Palos Park, Ill.	11.3	1951- r/
Chicago Sanitary and Ship Canal at Lockport, Ill.	-	1936-; (1900-1936)g/.
Illinois and Michigan Canal:		
Long Run near Lemont, Ill.	20.8	1951-
Des Plaines River at Joliet, Ill.	-	1914-32.
Hickory Creek:		
Spring Creek at Joliet, Ill.	19.7	1925-33.
Hickory Creek at Joliet, Ill.	107	1944-
Des Plaines River above Jackson Creek, near Channahon, Ill.	1,168	1903-6.
West Branch Du Page River at Winfield, Ill.	-	1925-26.
Du Page River at Troy, Ill.	325	1940-
Des Plaines River above Kankakee River, near Channahon, Ill.	-	1902-3.
Illinois River near Minooka, Ill.	-	1903-4.
Mazon River near Coal City, Ill.	470	1939-
Illinois River at Morris, Ill.	-	1919-39.
Illinois River near Seneca, Ill.	-	1902-3.
Illinois River at Marseilles, Ill.	b/7,640	1939-
Fox River near Mukwonago, Wis.	-	1927-30.
Eagle Creek:		
Eagle Lake near Kansasville, Wis.	b/6.1	1936-40*; 1941- * ++
White River:		
Honey Creek:		
Holden Lake near Elkhorn, Wis. (no outlet)	b/1	1937- *
Browns Lake Outlet:		
Browns Lake near Burlington, Wis.	b/2.5	1936-40*; 1941- * ++
Silver Lake Outlet:		
Silver Lake at Silver Lake, Wis.	b/5.0	1936-40*; 1941- * ++
Fox River at Wilmot, Wis.	b/880	1939-
Channel Lake near Antioch, Ill.	-	1939- *
Fox Lake near Lake Villa, Ill.	-	1939- *
Nippersink Lake at Fox Lake, Ill.	-	1939- *
Fox River at Johnsbury, Ill.	-	1939- *
Boone Creek near McHenry, Ill.	15.3	1948-
Fox River near McHenry, Ill.	-	1941- *
Fox River at Algonquin, Ill.	1,364	1915-
Poplar Creek at Elgin, Ill.	35.8	1951-

* Gage heights or gage heights and discharge measurements only.

++ Unpublished.

b/ Approximately.

g/ In reports of Illinois Division of Waterways.

r/ Records are published in Part 4 for the period 1951-52.

s/ Records are published in Part 4 for the period 1950-52.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Illinois River basin--Continued.		
Fox River at South Elgin, Ill.	-	1914-15*.
Fox River at Aurora, Ill.	-	1914*.
Fox River at Sheridan, Ill.	-	1905-6.
Fox River at Dayton (Wedron), Ill.	2,570	1914-
Fox River at Ottawa, Ill.	-	1903*.
Illinois River at Ottawa, Ill.	-	1903-4.
North Fork Vermilion River near Charlotte, Ill.	184	1942-
Vermilion River at Pontiac, Ill.	568	1942-
Vermilion River at Streator, Ill.	b/1,080	1914-30.
Vermilion River at Lowell, Ill.	b/1,230	1931-
Illinois River near La Salle, Ill.	-	1903.
Bureau Creek at Princeton, Ill.	186	1936-
West Bureau Creek at Wyanet, Ill.	83.3	1936-
East Bureau Creek near Bureau, Ill.	101	1936-
Bureau Creek at Bureau, Ill.	481	1940-51.
Crow Creek (West) near Henry, Ill.	55.3	1949-
Gimlet Creek at Sparland, Ill.	5.42	1945-47; 1949-
Crow Creek near Washburn, Ill.	123	1944-
Illinois River at Peoria, Ill.	-	1910-38.
Farm Creek at Farmdale, Ill.	27.6	1948-
Ackerman Creek at Farmdale, Ill.	11.8	1953-
Fondulac Creek near East Peoria, Ill.	5.47	1948-
Farm Creek at East Peoria, Ill.	60.9	1943-
Illinois River near Peoria, Ill.	-	1903-6.
Kickapoo Creek near Kickapoo, Ill.	120	1944-
Kickapoo Creek at Peoria, Ill.	296	1942-
Illinois River at Pekin, Ill.	-	1938-39.
Mackinaw River:		
Money Creek above Lake Bloomington, Ill.	51.9	1933-
Hickory Creek above Lake Bloomington, Ill.	10.1	1938-
Money Creek at Lake Bloomington, Ill.	68.6	1930-
Panther Creek:		
East Branch Panther Creek near Gridley, Ill.	b/6.3	1949-
East Branch Panther Creek at El Paso, Ill.	28.8	1949-
Panther Creek near El Paso, Ill.	95.0	1949-
Mackinaw River near Congerville, Ill.	764	1944-
Mackinaw River near Green Valley, Ill.	b/1,100	1921-
Illinois River at Kingston Mines, Ill.	b/15,200	1939-
Spoon River:		
Haw Creek:		
Hermon Creek:		
Brush Creek at Lake Bracken, near Galesburg, Ill.	9.14	1932-
Spoon River at London Mills, Ill.	b/1,070	1942-
Spoon River at Seville, Ill.	b/1,600	1914-
Illinois River at Havana, Ill.	-	1921-27.
Sangamon River at Mahomet, Ill.	356	1948-
Goose Creek near De Land, Ill.	47.3	1951-
Sangamon River at Monticello, Ill.	550	1908-12; 1914-
Sangamon River near Oakley, Ill.	750	1951-
Sangamon River at Decatur, Ill.	-	1905*.
Sangamon River at Lake Decatur, Ill.	906	1948-51.
South Fork Sangamon River near Nokomis, Ill.	10.8	1950-
Flat Branch near Taylorville, Ill.	276	1949-
South Fork Sangamon River near Taylorville, Ill.	427	1908-12; 1914-17.
South Fork Sangamon River at Kincaid (power plant near Taylorville), Ill.	510	1917-33; 1944-
South Fork Sangamon River near Rochester, Ill.	809	1949-
Sangamon River at Riverton, Ill.	b/2,560	1908-12; 1914-
Sangamon River at Springfield, Ill.	-	1903*.
Spring Creek near Springfield, Ill.	107	1948-
Sangamon River at Petersburg, Ill.	b/3,050	1948-49.
Salt Creek near Rowell, Ill.	334	1942-
Salt Creek near Kenney, Ill.	459	1908-12.
Lake Fork near Cornland, Ill.	207	1948-
Kickapoo Creek at Waynesville, Ill.	227	1948-
Kickapoo Creek near Lincoln, Ill.	306	1944-
Sugar Creek near Armington, Ill.	307	1948-49.
Sugar Creek near Hartsburg, Ill.	335	1944-
Salt Creek near Greenville, Ill.	b/1,800	1941-
Crane Creek near Easton, Ill.	28.7	1949-
Sangamon River near Oakford, Ill.	b/5,120	1909-12; 1914-19; 1921- 22; 1928-33; 1939-

* Gage heights or gage heights and discharge measurements only.
b/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--Continued.		
Illinois River basin--Continued.		
Sangamon River--Continued.		
Sangamon River near Chandlerville, Ill.	-	1908-9*.
Illinois River at Beardstown, Ill.	-	1920-38.
La Moine River at Colmar, Ill.	665	1944-
La Moine River at Ripley, Ill.	b/1,310	1921-
Illinois River at Meredosia, Ill.	b/25,300	1938- ; (1933-38) t/.
Mauvaise Terre Creek:		
North Fork Mauvaise Terre Creek near Jacksonville, Ill.	30.0	1949-
Hurricane Creek near Roodhouse, Ill.	2.33	1950- ††
Macoupin Creek near Kane, Ill.	875	1921-33; 1940-
Mississippi River at Alton (Grafton), Ill.	b/171,500	1928- ; (1879-1927*) t/.
Cahokia Creek basin		
Cahokia diversion channel: v/		
Indian Creek at Wanda, Ill.	37.0	1940-
Cahokia Creek near Poag, Ill.	259	1909-12.
Long Lake at Stallings, Ill.	b/5.0	1939-49.
Canteen Creek at Caseyville, Ill.	22.5	1939-
Kaskaskia River basin		
Kaskaskia River at Bondville, Ill.	12.3	1948-
Kaskaskia River at Picklin, Ill.	127	1954-
Kaskaskia River near Arcola, Ill.	390	1908-12.
Asa Creek at Sullivan, Ill.	7.93	1950-
Kaskaskia River at Shelbyville, Ill.	b/1,030	1908-12; 1914; 1940-
Kaskaskia River at Vandalia, Ill.	b/1,980	1908-12; 1914-
Kaskaskia River at Carlyle, Ill.	b/2,680	1908-12; 1914-15; 1938-
Crooked Creek:		
Centralia Reservoir Creek near Centralia, Ill.	b/7	1932-43; 1948-
Shoal Creek near Breese, Ill.	b/760	1909-12; 1914; 1945-
Silver Creek near Lebanon, Ill.	335	1908-12; 1914.
Kaskaskia River at New Athens, Ill.	b/5,220	1907-12; 1914-21; 1935-
Marys River basin		
Marys River near Sparta, Ill.	17.8	1949-
Big Muddy River basin		
Big Muddy River near Benton, Ill.	498	1945-
Middle Fork Big Muddy River:		
Ewing Creek:		
Tilley Creek near West Frankfort, Ill.	4.03	1938-46; 1948-
Big Muddy River at Plumfield (near Cambon), Ill.	753	1908-12; 1914-
Crab Orchard Creek near Marion, Ill.	31.9	1951-
Crab Orchard Lake near Carbondale, Ill.	-	1952- *
Beaucoup Creek near Pinckneyville, Ill.	227	1908-12; 1914.
Beaucoup Creek near Matthews, Ill.	291	1945-
Big Muddy River at Murphysboro, Ill.	b/2,170	1916-
Cache River basin		
Cache River:		
Big Creek near Wetaug, Ill.	32.2	1941- v/

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

b/ Approximately.

t/ In reports of Mississippi River Commission.

v/ Records are published in Part 3A for the period 1941-51.

v/ Flow of upper part of Cahokia Creek diverted into Mississippi River about 15 miles upstream from natural mouth of creek on Apr. 7, 1912.

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Ackerman Creek, Ill.	20	Burntside Lake, Minn.	6
Acorn Lake, Minn.	2	Bustles Lake, Minn.	6
Addison Creek, Ill.	19		
Albert Lake, Minn.	10	Cahokia Creek, Ill.	21
Antelope Creek, N. Dak.	3	Calhoun Lake Outlet, Minn.	9
Anvil Lake, Wis.	13	Canby Creek, Minn.	10
Apple River, Ill.	15	Cannon River, Minn.	12
Apple River, Wis.	12	Canteen Creek, Ill.	21
Asa Creek, Ill.	21	Canyon Creek, Mont.	2
		Carlos Lake, Minn.	8
Badger Creek, Minn.	5	Carpenter Creek, Ind.	19
Balclub Lake, Minn.	7	Cart Creek, N. Dak.	4
Balsam Lake, Minn.	7	Cedar Creek (tributary to Henderson Creek), Ill.	16
Baraboo River, Wis.	14	Cedar Creek (tributary to Pecatonica River), Ill.	15
Barrett Lake, Minn.	10	Cedar Creek Iowa	17
Bass Lake, Minn.	7	Cedar Lake (between Little Willow and Pine Rivers), Minn.	7
Basswood River, Minn.	6	Cedar Lake (Sand Creek basin), Minn.	11
Bay Creek, Ill.	18	Cedar Lake Reservoir, Wis.	13
Bay Lake, Minn.	7	Cedar River, Minn. - Iowa.	16
Bear Creek, Ill.	17	Centralia Reservoir Creek, Ill.	21
Bear Creek, Iowa.	16	Champlin Mill Pond, Minn.	10
Bear Creek, Mo.	18	Channel Lake, Ill.	19
Bear Island River, Minn.	6	Chetomba Creek, Minn.	11
Bear Lake, Minn.	6	Chicago Sanitary and Ship Canal, Ill.	19
Bear Lake Reservoir, Wis.	13	Chicago River, North Branch, Ill.	19
Beaucoup Creek, Ill.	21	Chicago River, West Fork of North Branch, Ill.	19
Beaver Creek, Iowa.	16	Chippewa Lake, Minn.	10
Beaver Creek, Minn.	13	Chippewa Lake Reservoir, Wis.	12
Beaver Creek, N. Dak.	3	Chippewa River, Minn.	10
Beaver Lake, Minn.	12	Chippewa River, Wis.	12, 13
Beaver Lake, Wis.	15	Chippewa River, West Fork, Wis.	12
Belly River, Mont. - Alberta.	2	Christina Lake, Minn.	10
Belly River, North Fork, Mont. - Alberta.	2	Circle Lake, Minn.	12
Bemidji Lake, Minn.	6	Clam River, Wis.	11
Bice ditch, Ind.	18	Clark Lake, Minn.	9
Big Birch Lake, Minn.	9	Clear Lake, Iowa.	16
Big Creek, Ill.	21	Clearwater Lake (Nokasippi River basin), Minn.	9
Big Creek, Iowa.	17	Clearwater Lake (Red Lake River basin), Minn.	4
Big Eau Pleine River, Wis.	14	Clearwater Lake (Clearwater River basin), Minn.	9
Big Fork River, Minn.	6	Clearwater River (tributary to Mississippi River), Minn.	9
Big McKenzie Lake, Wis.	11	Clearwater River (tributary to Red Lake River), Minn.	4
Big Muddy River, Ill.	21	Clinker Lake, Minn.	8
Big Slough, Ind.	18	Connection Lake, Minn.	4
Big Spunk Lake, Minn.	9	Connors Lake, Wis.	12
Big Stone Lake, Minn.	10	Coon Creek, Wis.	13
Big Swan Lake, Minn.	9	Cottonwood Lake, Minn.	11
Birch Lake Reservoir, Wis.	13	Cottonwood River, Minn.	10
Black Earth Creek, Wis.	14	Cowhorn Lake, Minn.	7
Blackhawk Creek, Iowa.	16	Crab Orchard Creek, Ill.	21
Black Bear Lake, Minn.	8	Crane Creek, Ill.	20
Blackduck Lake, Minn.	4	Crawfish River, Wis.	15
Blackhoof Lake, Minn.	8	Crooked Creek, Mo.	18
Blackwater Lake, Minn.	7	Crooked Lake, Minn.	7
Black River, Minn.	6	Cross Lake, Minn.	4
Black River, Wis.	13	Crow Creek, Ill.	20
Blue Earth River, Minn.	11	Crow Creek (West), Ill.	20
Blue Earth River, East Fork, Minn.	11	Crow River, Minn.	9
Bois de Sioux River, N. Dak. - S. Dak.	3	Crow River, Middle Fork, Minn.	9
Bone Lake, Wis.	12	Crow River, North Fork, Minn.	9
Boone Creek, Ill.	19	Crow River, South Fork, Minn.	9
Boone River, Iowa.	17	Crow Wing Lake No. 5, Minn.	8
Boundary Creek, Mont. - Alberta.	2	Crow Wing Lake No. 8, Minn.	8
Bowen Lake, Minn.	8	Crow Wing River, Minn.	8
Bronson Lake, Minn.	4	Cuivre River, Mo.	18
Brophy Lake, Minn.	8	Cuivre River, West Fork, Mo.	18
Browns Lake, Wis.	19	Cynthia Lake, Minn.	11
Brush Creek, Ill.	20		
Buck Lake, Minn.	7	Dam Lake, Minn.	7
Buffalo Creek, Ill.	19	Dark River, Minn.	6
Buffalo Lake, Minn.	3		
Buffalo River, Minn.	3		
Buffalo River, Wis.	13		
Buffalo River, South Branch, Minn.	3		
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Bulldog Run, Minn.	6		
Bureau Creek, Ill.	20		

ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

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Deer Lake Outlet, Minn.	6	Greenleaf Lake, Minn.	11
Des Lacs River, N. Dak.	5	Green River, Ill.	16
Des Moines River, Iowa	17	Grindstone River, Minn.	11
Des Moines River, East Fork, Iowa.	17	Grinnell Creek, Mont.	2
Des Moines River, West Fork, Iowa - Minn.	17	Gull River, Minn.	8
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Devils Lake, N. Dak.	3	Hand Lake, Minn.	8
Devils Lake, Wis.	14	Hanging Kettle Lake, Minn.	7
Douglas Creek, Mo.	18	Hardin Creek, East Fork, Iowa.	17
Drywood Lake, Minn.	10	Hartley Lake, Minn.	7
Duncan Creek, Wis.	12	Hattie Lake, Minn.	8
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Eagle Lake (Nokasippi River basin), Minn.	9	Henderson Creek, Ill.	16
Eagle Lake (Pine River basin), Minn.	8	Henderson Creek, North, Ill.	16
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Eau Claire River (tributary to Wisconsin River), Wis.	14	Heron Lake Outlet, Minn.	17
Eau Galle River, Wis.	13	Herzog Creek, N. Dak.	5
Eden Lake, Minn.	9	Hickory Creek (tributary to Des Plaines River), Ill.	19
Edwards River, Ill.	16	Hickory Creek (tributary to Money Creek), Ill.	20
Elk River, Minn.	9	High Island Lake, Minn.	11
Elkhorn Creek, Ill.	15	Hill Lake, Minn.	7
Emily Lake (Chippewa River basin), Minn.	10	Holden Lake, Wis.	19
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Fox Lake (Blue Earth River basin), Minn.	11	Island Lake, Minn.	8
Fox Lake (Cannon River basin), Minn.	12	Jefferson Lake, Minn.	12
Fox Lake (Pine River basin), Minn.	8	Jule Lake, Minn.	8
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Fox River, Iowa - Mo.	17	Jump River, South Fork, Wis.	12
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Galena River, Ill. - Wis.	14	Kankakee River, Ill. - Ind.	18,19
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Geneva Lake (Iowa River basin), Minn.	16	Kennedy Creek, Mont.	2
George Lake, Minn.	8	Keller Lake, Minn.	11
Gilmore Creek, Minn.	13	Kettle River, Minn.	11
Gimlet Creek, Ill.	20	Kickapoo Creek (tributary to Illinois River), Ill.	20
Goose Creek, Ill.	20	Kickapoo Creek (tributary to Salt Creek), Ill.	20
Goose Lake, Minn.	12	Kickapoo River, Wis.	14
Goose River, N. Dak.	3	Kickapoo River, West Fork, Wis.	14
Goose River, South Fork, N. Dak.	3	Killbuck Creek, Ill.	15
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Lake Darling, N. Dak.	5	Mackinaw River, Ill.	20
Lake Fork, Ill.	20	Macoupin Creek, Ill.	21
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Lake Sherburne, Mont.	2	Martin Lake, Minn.	12
Lake Shetek, Minn.	17	Marys River, Ill.	21
Lake Traverse, Minn.	3	Mauvaise Terre Creek, North Fork, Ill.	21
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Lake Wapello, Iowa	17	Mazon River, Ill.	19
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Little Boy Lake, Minn.	7	Minnehaha Creek, Minn.	10
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Little Fork River, Minn.	6	Mission Lake, Minn.	8
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Pelican River, Minn.	2	Root River, Minn.	13
Pembina River, N. Dak. - Manitoba.	5	Root River, South Fork, Minn.	13
Peno Creek, Mo.	18	Rose Lake, Minn.	2
Perkins Lake, Minn.	10	Roseau River, Minn. - Manitoba	5
Phelps Lake (Pine River basin), Minn.	8	Roseau River, South Fork, Minn.	5
Phelos Lake (Sand Creek basin), Minn.	11	Round Lake (Nokasippi River	
Pike River, Minn.	6	basin), Minn.	9
Pillsbury Lake, Minn.	9	Round Lake (Otter Tail River basin),	
Pine Creek, Minn.	5	Minn.	2
Pine Lake (Mud River basin), Minn.	7	Rum River, Minn.	10
Pine Lake (Otter Tail River		Rush Creek, Minn.	13
basin), Minn.	2	Rush Lake (Otter Tail River	
Pine Lake (St. Croix River		basin), Minn.	2
basin), Minn.	12	Rush Lake (St. Croix River	
Pine Lake (Chippewa River		basin), Minn.	12
basin), Wis.	12	Rush River, N. Dak.	3
Pine Lake (Rock River basin), Wis.	15	Sabre Lake, Minn.	12
Pine Mountain Lake, Minn.	8	St. Croix River, Minn. - Wis.	11,12
Pine River, Minn.	8	St. Mary Canal, Mont.	2
Pine River Reservoir, Minn.	8	St. Mary Lake, Mont.	2
Platte River, Minn.	9	St. Mary River, Mont. - Alberta.	2
Platte River, Wis.	14	Sakatah Lake, Minn.	12
Pleasant Lake, Minn.	11	Sallie Lake, Minn.	2
Plover River, Wis.	14	Salt Creek (tributary to	
Plum River, Ill.	15	Sangamon River), Ill.	20
Pokegama Reservoir, Minn.	7	Salt Creek (tributary to	
Pomme de Terre Lake, Minn.	10	Des Plaines River), Ill.	19
Pomme de Terre River, Minn.	10	Salt Creek, Iowa	16
Pope Creek, Ill.	16	Salt River, Mo.	18
Poplar Creek, Ill.	19	Salt River, Elk Fork, Mo.	18
Portage Lake (Crow Wing River		Salt River, Middle Fork, Mo.	18
basin), Minn.	8	Salt River, South Fork, Mo.	18
Portage Lake (Pine River basin), Minn.	8	Sand Creek, Minn.	11
Potato Lake, Minn.	8	Sand Hill ditch, Minn.	3
Prairie Lake (Pelican River		Sand Hill River, Minn.	3
basin), Minn.	2	Sand Lake, Minn.	6
Prairie Lake (Sandy River basin),		Sandy Lake Reservoir, Minn.	7
Minn.	7	Sandy River, Minn.	7
Prairie River, Minn.	7	Sangamon River, Ill.	20,21
Prairie River, Wis.	14	Sangamon River, South Fork, Ill.	20
Prior Lake, Minn.	11	Sargent Lake, Minn.	3
Rabbit Creek, Minn.	3	Sauk River, Minn.	9
Rabbit Lake, Minn.	7	Scandinavian Lake, Minn.	10
Rabbit River, Minn.	8	Scotch Lake, Minn.	11
Rabideau Lake, Minn.	6	Shady Lake, Minn.	13
Racoon River, Iowa	17	Shakopee Creek, Minn.	10
Rainy Lake, Ontario.	6	Shell Lake, Minn.	8
Rainy River, Minn.	6	Shell Lake, Wis.	11
Ralston Creek, Iowa	16	Shell Rock River, Iowa	16
Rapid Creek, Iowa	16	Shell Rock River, West Fork, Iowa.	16
Red Cedar River, Wis.	13	Sheyenne River, N. Dak.	3
Red Lake River, Minn.	4	Shields Lake, Minn.	12
Red River of the North, Manitoba	5	Shoal Creek, Ill.	21
Red River of the North, Minn.	3,4	Sibley Lake, Minn.	9
Red River of the North, N. Dak.	3,4	Silver Creek, Ill.	21
Redwood River, Minn.	11	Silver Lake (Blue Earth River	
Reservoirs in Chippewa River		basin), Minn.	11
basin, Wis.	12	Silver Lake (Zumbro River	
		basin), Minn.	13

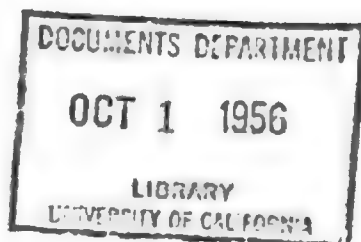
	<u>Page</u>		<u>Page</u>
Silver Lake, Wis.	19	Two Rivers, Minn.	4
Singleton ditch, Ill. - Ind.	18	Two Rivers, North Branch, Minn.	4
Six Mile Lake, Minn.	7	Two Rivers, South Branch, Minn.	4
Skokie River, Ill.	19		
Skunk River, Iowa.	16,17	Union Lake, Minn.	12
Smith Lake, Minn.	8	Upper Dean Lake, Minn.	7
Snake River (St. Croix River basin), Minn.	11	Upper Hunt Lake, Minn.	10
Snake River (Red River of the North basin), Minn.	4	Upper Iowa River, Iowa	13
Sny, The, Ill.	18	Upper Long Lake, Minn.	9
Souris River, N. Dak.	5	Upper Pine Lake, Iowa.	16
South Fabius River, Mo.	18	Upper Red Lake, Minn.	4
South Fabius River, North Fork, Mo.	18		
South Kawishiwi River, Minn.	6	Vermilion Lake, Minn.	6
South Raccoon River, Iowa.	17	Vermilion River, Ill.	20
South River, Iowa.	17	Vermilion River (tributary to Mississippi River), Minn.	12
South Twin Lake, Minn.	3	Vermilion River (tributary to Namakan River), Minn.	6
Spencer Creek, Mo.	18	Vermilion River, North Fork, Ill.	20
Spirit Lake, Minn.	7	Victoria Lake, Minn.	8
Spirit River, Wis.	14		
Spilthand Lake, Minn.	7	Wall Lake, Minn.	2
Spoon River, Ill.	20	Wapsipinicon River, Iowa	15
Sprague Creek, Manitoba.	5	Warren Lake, Minn.	17
Springbrook Lake, Iowa	17	Warroad River, Minn.	6
Spring Creek (tributary to Sangamon River), Ill.	20	Warroad River, East Branch, Minn.	6
Spring Creek (tributary to Des Plaines River), Ill.	19	Washburn Lake, Minn.	8
Spring Creek, Minn.	10,11	Watab Lake, Minn.	9
Squaw Creek, Iowa.	16	Waterton River, Mont. - Alberta.	2
Squirrel Lake, Wis.	14	Watkins Lake, Minn.	12
Stalker Lake, Minn.	10	Watsonwan River, Minn.	11
State ditch 85, Minn.	4	Waukenabo Lake, Minn.	7
Stocking Lake, Minn.	8	Waverly Lake, Minn.	9
Stoney River, Minn.	6	Weller Creek, Ill.	19
Stowes Lake, Minn.	10	West Creek, Ind.	18
Straight Lake, Minn.	8	West Bureau Creek, Ill.	20
Street Creek, Mont. - Alberta.	2	West Leaf Lake, Minn.	8
Sturgeon River, Minn.	6	Whetstone River, S. Dak.	10
Sucker Lake, Minn.	6	Whitebreast Creek, Iowa.	17
Sugar Creek (tributary to Salt River), Ill.	20	White Earth Lake, Minn.	4
Sugar Creek (tributary to Iroquois River), Ill.	19	Whitewater Creek, Wis.	15
Sugar Creek, Iowa.	17	Whitewater River, Minn.	13
Sugar River, Wis.	15	Whitewater River, North Fork, Minn.	13
Sullivan Lake, Minn.	9	Whitewater River, South Fork, Minn.	13
Sunrise River, Minn.	11	Wild Rice River, Minn. - N. Dak.	3
Swan River, Minn.	7	Wild Rice River, South Branch, Minn.	3
Swiftcurrent Creek, Mont.	2	Willow Creek, Ill.	19
		Willow Creek, N. Dak.	5
Talcot Lake, Minn.	17	Willow Reservoir, Wis.	14
Tamarac Lake, Minn.	3	Willow River, Minn.	7
Tamarac River, Minn.	4	Wimar Lake, Minn.	2
Ten Mile Lake, Minn.	10	Winnibigoshish Reservoir, Minn.	6
Tenmile Creek, Minn.	10	Wintering River, N. Dak.	5
Terry Creek, Ill.	19	Wisconsin River, Wis.	14
Tetonka Lake, Minn.	12	Wolf Lake, Minn.	7
Thief Lake, Minn.	4	Wood Lake, Minn.	11
Thief River, Minn.	4	Wood River, Wis.	11
Thistledeu Lake, Minn.	6	Wyaconda River, Mo.	17,18
Three Island Lake, Minn.	6		
Tilley Creek, Ill.	21	Yahara River, Wis.	15
Tinley Creek, Ill.	19	Yankton Lake, Minn.	17
Tomahawk River, Wis.	14	Yellow River, Ind.	18
Tongue River, N. Dak.	5	Yellow River, Iowa	13
Trempealeau River, Wis.	13	Yellow River (tributary to Chippewa River), Wis.	12
Turkey River, Iowa	14	Yellow River (tributary to St. Croix River), Wis.	11
Turtle Creek, Minn.	16	Yellow River (tributary to Wisconsin River), Wis.	14
Turtle Creek, Wis.	15	Yellow Bank River, Minn.	10
Turtle Lake, Wis.	15	Yellow Medicine River, Minn.	10,11
Turtle River, N. Dak.	4	Yellowstone River, Wis.	15
Tuttle Lake, Minn. - Iowa.	17	Youngs Creek, Mo.	18
Twin Lakes, Minn.	2		
Two Inlets Lake, Minn.	8	Zumbro River, Minn.	13
		Zumbro River, South Fork, Minn.	13

21157
GEOLOGICAL SURVEY CIRCULAR 386



INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955

PART 6.—MISSOURI RIVER BASIN



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 386

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 6.—MISSOURI RIVER BASIN

Washington, D. C. 1956

Free on application to the Geological Survey, Washington 25, D. C.

PART 6—MISSOURI RIVER BASIN

By H. F. Matthai

EXPLANATION

This index lists the streamflow and reservoir stations in the Missouri River basin for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indention and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indention in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 38 to 44.

INDEX, PART 6, MISSOURI RIVER BASIN

PART 6-A, MISSOURI RIVER BASIN ABOVE SIOUX CITY, IOWA

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Red Rock River (head of Missouri River) near Lakeview, Mont.	a/190	1933-37.
Red Rock River at Metzel Ford, near Monida, Mont.	b/243	1925-29.
Red Rock River at Kennedy Ranch, near Lakeview, Mont.	318	1936-
Red Rock River above Lima (Red Rock) Reservoir, near Monida, Mont.	-	1911; 1914-15; 1930.
Lima (Red Rock) Reservoir near Monida, Mont.	-	1939-†
Red Rock River below Lima (Red Rock) Reservoir, near Monida, Mont.	a/560	1911-18; 1925-
Red Rock River at Lima, Mont.	615	1907-11.
<u>Sheep Creek basin</u>		
Sheep Creek below Muddy Creek, near Dell, Mont.	282	1936; 1946-53.
Red Rock River near Dell, Mont.	a/1,420	1942-
Red Rock River at Red Rock, Mont.	-	1890†; 1950-52.
<u>Horse Prairie Creek basin</u>		
Horse Prairie Creek near Grant, Mont.	325	1946-53.
<u>Beaverhead River (continuation of Red Rock River):</u>		
<u>Grasshopper Creek basin</u>		
Grasshopper Creek near Dillon, Mont.	a/350	1921-33; 1945-53; 1955-
Beaverhead River at Barratts, Mont.	a/2,740	1907-
<u>Rattlesnake Creek basin</u>		
Rattlesnake Creek near Dillon, Mont.	-	1946-49.
Beaverhead River at Dillon, Mont.	-	1907*; 1950-52.
<u>Blacktail Creek basin</u>		
Blacktail Creek near Dillon, Mont.	-	1946-53; 1955-
Beaverhead River near Dillon, Mont.	-	1950-52.
Beaverhead River at Blaine, Mont.	a/3,630	1935-
<u>Ruby River basin</u>		
Ruby River above Warm Springs Creek, near Alder, Mont.	-	1948-53.
Ruby River above reservoir, near Alder, Mont.	537	1938-
Ruby (Passamari) River at damsite (at Lauterbach's Ranch), near Alder, Mont.	a/600	1911-14; 1935-36; 1936-37†.
Ruby River Reservoir near Alder, Mont.	a/600	1939-†
Ruby River near Alder, Mont.	a/620	1929-39; 1946-
Ruby River at Laurin, Mont.	-	1946-
Ruby River below Ramshorn Creek near Sheridan, Mont.	-	1946-53.
Ruby River near Sheridan, Mont.	-	1946-51.
Ruby River near Twin Bridges, Mont.	986	1940-43; 1946-
<u>Big Hole River basin</u>		
Big Hole River near Jackson, Mont.	35.8	1948-53.
Miner Creek near Jackson, Mont.	18.4	1948-53.
Trail Creek near Wisdom, Mont.	71.0	1948-53.
Big Hole River near Dewey, Mont.	a/2,160	1910-13.
Big Hole River near Melrose, Mont.	a/2,470	1924-32†; 1932-
Birch Creek near Glen (Reichle), Mont.	-	1946-53; 1955-
<u>Jefferson River (continuation of Red Rock-Beaverhead Rivers) near Twin Bridges, Mont.</u>		
Jefferson River near Silverstar, Mont.	a/7,640	1940-43.
Jefferson River near Silverstar, Mont.	a/7,840	1910-16; 1920-39.
<u>Bell Creek basin</u>		
Bell Creek near Waterloo, Mont.	-	1941-42.
<u>Pipestone Creek basin</u>		
(Big) Pipestone Creek near Whitehall, Mont.	115	1910-11.
Little Pipestone Creek near Whitehall, Mont.	a/20	1935-40.
<u>Whitetail Creek basin</u>		
Whitetail Creek near Whitehall, Mont.	-	1949-53; 1955-
Little Whitetail Creek near Whitehall, Mont.	-	1911.
Whitetail Creek at Whitehall, Mont.	-	1911.
<u>Boulder River basin</u>		
Boulder River above Rock Creek near Basin (at CCC camp, near Bernice), Mont.	-	1936; 1946-53; 1955-
Rock Creek at CCC camp, near Bernice, Mont.	-	1936.
Boulder River at Basin, Mont.	219	1921-23.
Boulder River near Basin, Mont.	-	1919-20.
Muskrat Creek near Boulder, Mont.	a/7	1912-14.
Boulder River near Boulder, Mont.	a/350	1929-31; 1934-
<u>Little Boulder River:</u>		
North Fork Little Boulder River near Boulder, Mont.	-	1926.
<u>South Boulder Creek basin</u>		
South Boulder Creek near Jefferson Island, Mont.	a/25	1926-33.
Jefferson River at Sappington, Mont.	a/8,980	1894-96*; 1896-1905; 1938-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

b/ 72d Cong., 1st sess., H. Doc. 193, Jefferson, Madison, and Gallatin Rivers, Mont.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Jefferson River--Continued.</u>		
<u>Willow Creek basin</u>		
Willow Creek near Harrison, Mont.	88.4	1938-
Norwegian Creek near Harrison, Mont.	34.6	1938-43; 1946-51.
Willow Creek Reservoir (Harrison Lake) near Harrison, Mont.	a/140	1939-†
Willow Creek near Willow Creek, Mont.	164	1919-32; 1946-53; 1955-
<u>Madison River basin</u>		
Firehole River (head of Madison River):		
Gibbon River near West Yellowstone (Yellowstone), Mont.	117	1913-16.
Madison River near West Yellowstone (Yellowstone), Mont.	419	1913-
Hebgen Lake (Reservoir) near West Yellowstone, Mont.	904	1939-†
Madison River below Hebgen Lake (Reservoir), near Grayling, Mont.	904	1938-
West Fork Madison River near Lakeview, Mont.	-	1936.
Madison River at Lyon, Mont.	a/1,300	1928-32.
Madison River near Cameron, Mont.	-	1951-
Ennis Lake (Madison Reservoir) near McAllister, Mont.	a/2,180	1939-†
Madison River below Ennis Lake (Madison Reservoir), near McAllister, Mont.	a/2,180	1938-
Madison River near Norris (Red Bluff), Mont.	a/2,280	1890-93; 1893-94*; 1910.
Madison River below Cherry Creek, near Norris (Red Bluff), Mont.	a/2,390	1897-1905.
Madison River near Three Forks, Mont.	2,485	1893-94*; 1895-97; 1928-32; 1941-50.
<u>Missouri River (continuation of Jefferson River):</u>		
<u>Gallatin River basin</u>		
<u>Gallatin River:</u>		
Taylor Creek near Grayling, Mont.	-	1946-53; 1955-
Gallatin River near Gallatin Gateway (Bozeman), Mont.	828	1889-94; 1930-
Gallatin (West Gallatin) River near Salesville, Mont.	848	1895-1905; 1910-13; 1921-23.
South Cottonwood Creek near Gallatin Gateway, Mont.	22.5	1951-53.
Gallatin River at Axtell Bridge, near Gallatin Gateway, Mont.	-	1950-53.
Gallatin River near Belgrade, Mont.	-	1950-53.
Gallatin River near Manhattan, Mont.	-	1950-53.
East Gallatin River near Bozeman, Mont.	49.5	1951-53.
Bear Canyon Creek near Bozeman, Mont.	17.6	1951-53.
Bozeman Creek near Bozeman, Mont.	28.0	1951-53.
East Gallatin River at Bozeman, Mont.	149	1939-
Bridger Creek near Bozeman, Mont.	62.2	1946-
Middle Cottonwood Creek near Bozeman, Mont.	4.35	1951-53.
Hyalite Creek (Middle Creek):		
Middle Creek Reservoir near Bozeman, Mont.	-	1950-†
Hyalite Creek (Middle Creek near Bozeman) at Hyalite ranger station, near Bozeman, Mont.	48.4	1895-96; 1898-1900; 1902; 1904; 1934-
Smith Creek:		
Ross Creek near Belgrade, Mont.	1.29	1951-53.
Reese Creek near Belgrade, Mont.	22.0	1951-53.
Dry Creek at Andrus Ranch, near Manhattan, Mont.	96.4	1951-53.
Dry Creek at Brownell Ranch, near Manhattan, Mont.	-	1951.
Gallatin River at Logan, Mont.	1,805	1893-94*; 1895-98; 1900-1905; 1928-
<u>Sixteen Mile Creek basin</u>		
Sixteen Mile Creek at Ringling, Mont.	-	1950-55.
<u>Broadwater Canal system</u>		
Broadwater East Canal near Toston, Mont.	-	1941-49.
Broadwater West Canal near Toston, Mont.	-	1941-49.
Missouri River at Toston, Mont.	a/14,000	1910-16; 1941- (1890*)c/.
<u>Crow Creek basin</u>		
Crow Creek near Townsend, Mont.	33	1912-13*.
Crow Creek near Radersburg, Mont. (Upper station)	b/54	1901*; 1924-29.
Crow Creek near Radersburg, Mont. (Lower station)	d/66	1919-22.
<u>Deep Creek basin</u>		
Deep Creek near Townsend, Mont.	89	1910-15*.
Missouri River near Townsend, Mont.	a/14,500	1891-96*; 1896-1901; 1903-4; (1896-1904†)d/; (1902-16*)e/.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

b/ 72d Cong., 1st sess., H. Doc. 193, Jefferson, Madison, and Gallatin Rivers, Mont.

c/ In reports of Missouri River Commission.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Lake Sewall near Helena, Mont.	d/15,700	1939-53†.
Missouri River (at Canyon Ferry) below		
Canyon Ferry Dam, Mont.	d/15,700	1889; (1917-31†)d/.
Canyon Ferry Reservoir near Helena, Mont.	a/15,860	1953- †
Prickly Pear Creek basin		
Prickly Pear Creek:		
Dutchman Creek near Alhambra, Mont.	11.2	1921-24.
Warm Springs Creek at (near) Alhambra, Mont.	18.7	1921-24.
Clancy Creek at Clancy, Mont.	33.4	1921-23.
Lump Gulch (Creek) at Foley's Ranch, near Clancy, Mont.	d/42	1921-24.
Lump Gulch (Creek) at Zastrow's Ranch, near Clancy, Mont.	d/54	1908-13.
Prickly Pear Creek near Clancy, Mont.	178	1908-9*; 1909; 1910-16; 1921-33; 1945-
Prickly Pear Creek at East Helena, Mont.	d/258	1908-13.
Tenmile Creek near Rimini, Mont.	a/34	1915-
Tenmile Creek near Helena, Mont.	103	1908-54.
Sevenmile Creek at Birdseye, Mont.	d/68	1909-13.
Sevenmile Creek near Helena, Mont.	-	1908*.
Lake Helena near Helena, Mont.	-	1945- †
Hauser Lake near Helena, Mont.	a/16,600	1939- †
Missouri River below Hauser Lake Dam, near Helena, Mont.	a/16,600	1922-42.
Holter Lake (Reservoir) near Wolf Creek, Mont.	a/16,900	1939- †
Missouri River below Holter Dam, near Wolf Creek, Mont.	-	1945-53.
Little Prickly Pear Creek basin		
Little Prickly Pear Creek near Marysville, Mont. (Upper station).	-	1909-11.
Lost Horse Creek near Marysville, Mont.	-	1909-11.
Deadman Creek near Marysville, Mont.	-	1909-11.
Little Prickly Pear Creek near Marysville, Mont. (Lower station).	44	1913-32.
Marsh Creek near Marysville, Mont.	d/7.5	1909-11.
Canyon Creek near Canyon Creek, Mont.	74	1921-23.
Cottonwood Creek near Canyon Creek, Mont.	17	1921-22.
Little Prickly Pear Creek near Canyon Creek, Mont.	180	1909-11; 1913-24.
Missouri River at Craig, Mont.	a/17,600	1890-92.
Dearborn River basin		
Dearborn River above Falls Creek, near Clemons, Mont.	-	1908-11.
Falls Creek near Clemons, Mont.	d/40	1908-11.
Dearborn River near Clemons, Mont.	122	1921-23; 1929-32; 1934-53.
Dearborn River near Craig, Mont.	-	1945-
Missouri River at Cascade, Mont.	a/18,300	1902-15.
Smith River basin:		
Smith River near White Sulphur Springs, Mont.	d/36	1922-31; 1934-36.
Smith River Reservoir near White Sulphur Springs, Mont.	a/60	1939-48†.
Smith River above Fivemile Creek, near White Sulphur Springs, Mont.	a/60	1934-43.
Newland Creek near White Sulphur Springs, Mont.	-	1945-53.
Newland Creek near damsite, near White Sulphur Springs, Mont.	-	1950-
Sheep Creek near White Sulphur Springs, Mont.	35.5	1941-
Smith River near Eden, Mont.	1,601	1951-
Smith River at Truly, Mont.	d/2,005	1905-7; 1929-32.
Sun River basin		
North Fork of North Fork Sun River near Augusta, Mont.	258	1911-12; 1945-
South Fork of North Fork Sun River near Augusta, Mont.	d/247	1911-12.
Gibson Reservoir near Augusta, Mont.	a/570	1940- †
North Fork (Sun River above Augusta) Sun River near Augusta, Mont.	596	1889-90; 1904*; 1905-28; 1936-38††.
Fishkun Reservoir near Augusta, Mont.	-	1940- †
Floweree Big Canal near Augusta, Mont.	-	1912.
Willow Creek near Augusta, Mont.	a/90	1905-25.
Willow Creek Reservoir near Augusta, Mont.	-	1940- †
South Fork Sun River:		
Smith Creek near Augusta, Mont.	26	1906-12.
Nolan Reservoir near Augusta, Mont.	-	1951- †
Ford Creek near Augusta, Mont.	18	1906-12.
Smith Creek below Ford Creek, near Augusta, Mont.	-	1945-52.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Records for this period not equivalent owing to exclusion of diversion.

a/ Approximately

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Missouri River--Continued.</u>		
<u>Sun River basin--Continued.</u>		
South Fork Sun River at Augusta, Mont.	200	1904*; 1905-24.
Crown Butte Canal at Riebeling, Mont.	-	1912.
Crown Butte Canal near Simms, Mont.	-	1912.
Sun River at Port Shaw, Mont.	1,475	1912-28.
Sun River Canal near Sun River, Mont.	-	1912.
Sun River Canal at Vaughn, Mont.	-	1912.
Sun River at Sun River, Mont.	a/1,580	1905-12.
Muddy Creek near Power, Mont.	-	1935-39.
Muddy Creek at Vaughn, Mont.	a/268	1925-26; 1934-
Sun River near Vaughn, Mont.	a/2,200	1934-
Sun River near Great Falls, Mont.	-	1897*.
Missouri River at Great Falls, Mont.	d/22,994	(1890*; 1894-95*)c/; (1910-11*)d/.
<u>Belt Creek basin</u>		
Belt Creek near Monarch, Mont.	-	1951-
Belt Creek near Belt, Mont.	-	1905-6.
<u>Highwood Creek basin:</u>		
Highwood Creek near Highwood, Mont.	-	1905-6.
Missouri River at Fort Benton, Mont.	a/24,600	1881-89***; 1890- (1873-76*)e/.
<u>Marias River basin</u>		
<u>Two Medicine River (head of Marias River):</u>		
<u>Lower Two Medicine Lake (Two Medicine Lake) near</u>		
East Glacier, Mont.	a/50	1940- †
<u>Two Medicine River near East Glacier</u>		
(Glacier Park), Mont.	56	1918-24.
Two Medicine River at Midvale, Mont.	-	1902-3*.
Two Medicine River near Browning (at Family), Mont.	368	1907-24; 1951-
Badger Creek near Browning, Mont.	133	1951-
Four Horns Lake (Reservoir) near Heart Butte, Mont.	-	1940- †
Badger Creek near Family, Mont.	241	1907-24.
Swift (Birch Creek) Reservoir near Dupuyer, Mont.	75	1940- †
Birch Creek at Swift Dam, near Dupuyer, Mont.	75	1913-26; 1927-29.
Birch Creek near Dupuyer, Mont.	110	1907-26; 1927-32.
Lake Frances near Valier, Mont.	-	1940- †
Birch Creek at Nelson's Ranch, near Dupuyer, Mont.	-	1914-17.
Birch Creek at Hall's Ranch, near Dupuyer, Mont.	-	1913-16.
Birch Creek at Robare, Mont.	-	1914-17.
Dupuyer Creek at Dupuyer, Mont.	54	1908-12.
Dupuyer Creek near Valier, Mont.	111	1912-26; 1927-32.
Cut Bank Creek near Browning, Mont.	a/130	1918-24.
Cut Bank Creek at Cut Bank, Mont.	971	1905-19; 1922-24; 1951-
Marias River near Shelby, Mont.	a/2,610	1902-8; 1911-
Dry Fork Marias River near Valier, Mont.	125	1911-15.
Dry Fork Marias River at Fowler, Mont.	a/300	1920-31.
Willow Creek near Devon, Mont.	a/290	1921-25.
Marias River near Chester, Mont.	-	1921; 1945-47.
Marias River near Brinkman, Mont.	a/6,400	1921-
Teton River near Farmington, Mont.	111	1947-54.
Teton River at Strabane (near Bellevue), Mont.	170	1904-6*; 1908-25.
Spring Creek near Strabane, Mont.	-	1913; 1917-20.
Spring Creek near Choteau, Mont.	-	1917-20.
Teton River near Choteau, Mont.	a/260	1904-6*; 1906; 1913; 1915-19.
Deep Creek at Frazier's Ranch, near Choteau, Mont.	38	1912.
Willow Creek near Choteau, Mont.	a/120	1912-17.
Deep Creek near Choteau, Mont.	a/240	1911-24.
Muddy Creek near Bynum, Mont.	82	1912-24.
Blackleaf Creek near Bynum, Mont.	65	1912-24.
Muddy Creek near Agawam, Mont.	-	1917.
Teton River near Dutton, Mont.	-	1954-
Teton River near Fort Benton, Mont.	d/1,945	1929-32.
Missouri River at Loma, Mont.	a/34,100	1935-53.
Missouri River at Virgelle, Mont.	a/34,300	1953-
<u>Judith River basin</u>		
Judith River near Utica, Mont.	351	1919-
Ackley Lake near Hobson, Mont.	-	1939- †
Ross Fork near Hobson, Mont.	a/330	1946-53; 1955-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

*** Records unreliable.

a/ Approximately.

o/ In reports of Missouri River Commission.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Judith River basin--Continued.		
Big Spring Creek near Lewistown, Mont.	-	1932-
Cottonwood Creek near Lewistown, Mont.	-	1945-48; 1949-51.
Sage Creek at Windham, Mont.	58	1920-21.
Judith River near Lewistown, Mont.	-	1910.
Judith River near Winifred, Mont.	d/2,150	1929-32.
Wolf Creek near Stanford, Mont. (Upper station).	-	1920-26.
Wolf Creek near Stanford, Mont. (Lower station).	118	1950-53; 1955-
Missouri River at power-plant ferry, near Zortman, Mont.	a/40,600	1934-
Musselshell River basin		
North Fork Musselshell River near Delpine, Mont.	21.8	1940-
North Fork Musselshell River at Delpine, Mont.	48	1909-11; 1922-32.
Durand Reservoir near Delpine, Mont.	a/70	1940-†
Checkerboard Creek at Delpine, Mont.	24.3	1909-11; 1913-14; 1922-32.
Spring Creek near Martinsdale, Mont.	35	1922-24.
North Fork Musselshell River near Martinsdale, Mont.	f/230	1907-14.
South Fork Musselshell River above Martinsdale, Mont.	a/310	1941-
Martinsdale Reservoir near Martinsdale, Mont.	-	1940-†
South Fork Musselshell River near Martinsdale, Mont.	f/320	1907-14; 1930-32.
Big Elk Creek at Twodot, Mont.	-	1953-
Musselshell River at Harlowton, Mont.	a/1,130	1907-
American Fork near Harlowton, Mont.	f/100	1907-11; 1913; 1924-32.
Lebo Creek near Harlowton, Mont.	48	1907-8*; 1909-11; 1913; 1924-32.
American Fork below Lebo Creek near Harlowton, Mont.	-	1946-
Deadman's Basin Reservoir near Shawmut, Mont.	-	1940-††
Musselshell River at Shawmut, Mont.	f/1,580	1902-5*; 1905-7.
Musselshell River near Ryegate, Mont.	-	1946-
Careless Creek near Living Springs, Mont.	18.5	1920-23.
West Careless Creek near Living Springs, Mont.	20	1920-21.
Roberts Creek at Hedgesville, Mont.	300	1920-23.
Careless Creek at Wallum, Mont.	a/400	1934-42.
Musselshell River at Lavina, Mont.	-	1906*.
Musselshell River near Roundup, Mont.	-	1946-47; 1949-
South Willow Creek (Willow Creek), near Roundup, Mont.	-	1922-23*.
Musselshell River at Musselshell, Mont.	f/4,760	1928-32; 1945- (1905-6*)a/.
Box Elder Creek near Winnett, Mont.	a/740	1930-32; 1934-38.
McDonald Creek at Winnett, Mont.	a/350	1930-32; 1934-45; 1953-
Flatwillow Creek near Flatwillow, Mont.	195	1911-32; 1934-
Flatwillow Creek near Winnett, Mont.	-	1948-51.
Flatwillow Creek at Petrolia, Mont.	650	1921-32.
Musselshell River at Mosby, Mont.	a/8,010	1929-32; 1934-
Dry Creek basin		
Dry Creek near Van Norman, Mont.	a/2,530	1939-47; 1949-
Fort Peck Reservoir at Fort Peck, Mont.	57,725	1938-†; (1937-38)g/.
Missouri River below Fort Peck Dam, Mont.	a/57,800	1934-
Milk River basin		
South Fork Milk River near international boundary, near Browning, Mont.	288	1905-30.
South Fork Milk River near international boundary.	433	1931-
North Fork Milk River (North Fork Milk River near Browning) above St. Mary Canal, near Browning, Mont.	a/62	1911-12; 1918†; 1921-
St. Mary Canal at Hudson Bay Divide, near Browning, Mont.	-	1917 - (Published in Part 5)
North Fork Milk River near international boundary (Kimball, Alberta)	101	1913-; (1909-12)h/.
Milk River at Milk River, Alberta.	1,104	1909-17; 1917-20†; 1920-
Milk River at eastern crossing of international boundary	2,514	1909-
Wild Horse Lake closed basin (not tributary to Milk River):		
Sage Creek at "Q" Ranch, near Wildhorse, Alberta.	164	1952-; (1935-44; 1946-51)h/.
Sage Creek at international boundary.	-	1947-; (1946)h/.
Fresno Reservoir near Havre, Mont.	a/3,400	1940-†

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

f/ 72nd Cong., 1st sess., H. Doc. 146, Musselshell River.

g/ In files in office of Missouri River Division, Corps of Engineers.

h/ In reports of Department of Northern Affairs and National Resources, Canada.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Milk River basin--Continued.		
Milk River above Havre, Mont.	a/3,400	1928-32.
Big Sandy Creek near Big Sandy, Mont.	-	1946-51.
Sage Creek near Kremlin, Mont.	-	1945-51.
Big Sandy Creek near Box Elder, Mont.	a/1,500	1928-32; 1934-38.
Big Sandy Creek near Laredo, Mont.	1/1,956	1918-20.
Big Sandy Creek near Assiniboine, Mont.	-	1946-53.
Beaver Creek near Havre, Mont.	1/95	1918-21.
Milk River at Havre, Mont.	1/5,707	1898-1922; 1954-
Boxelder (Little Boxelder) Creek near Havre, Mont.	-	1919-21.
Boxelder Creek at P. X. Ranch (Little Boxelder Creek) near Havre, Mont.	-	1918
Clear Creek near Bearpaw, Mont.	74	1918-21.
Fort Belknap Canal near Chinook, Mont.	-	1903-21.
Milk River at Lohman, Mont.	a/6,070	1923-25; 1934-51.
Milk River at Chinook, Mont.	-	1897*.
New Paradise Valley (Winter-Anderson) Canal near Chinook, Mont.	-	1906-8; 1920-21.
Lodge Creek at international boundary	797	1917-51; (1910-16)h/.
McRae Coulee at international boundary	a/53	1927-51.
Lodge Creek below McRae Coulee at international boundary	a/850	1951-
North Chinook Canal near Havre, Mont.	-	1928-
Reaser ditch near Chinook, Mont.	-	1905; 1906*.
West Fork ditch near Chinook, Mont.	-	1905-6.
Lodge Creek (West Fork Milk River) at Chinook, Mont.	1/1,279	1906-7; 1908*.
Battle Creek above Cypress Lake west inflow canal, near West Plains, Saskatchewan.	240	1947- ; (1939-46)h/.
Cypress Lake west inflow canal near West Plains, Saskatchewan.	-	1947- ; (1939-46)h/.
Cypress Lake west outflow canal near West Plains, Saskatchewan.	-	1947- ; (1940-46)h/.
Battle Creek at international boundary	726	1917-
Woodpile Coulee near international boundary	a/70	1927-
East Fork Battle Creek near international boundary	a/95	1927-
Lyons Coulee at international boundary	47	1927-
Battle Creek (North Fork Milk River) near Chinook, Mont.	1,430	1905-21.
Cook Canal near Chinook, Mont.	-	1905-19.
Matheson Canal near Chinook, Mont.	-	1905-21, 1928-49; 1950-
Paradise Valley Canal near Chinook, Mont.	-	1903*; 1904-9; 1911-19.
Harlem Canal near Zurich, Mont.	-	1903*; 1904-21.
Agency ditch near Harlem, Mont.	-	1905; 1906-9*; 1910-20.
Peoples Creek near Dodson, Mont.	a/720	1918-19; 1921; 1951-
Nelson Reservoir near Saco, Mont.	-	1940-†
Milk River at Malta, Mont.	1/12,457	1902-22.
Whitewater Creek near international boundary	a/300	1927-
Belanger Creek (head of Frenchman River):		
Belanger Creek diversion canal near Vidora, Saskatchewan.	-	1947- ; (1946)h/.
Cypress Lake Reservoir near Vidora, Saskatchewan.	-	1947-†; (1939-47)h/.
Cypress Lake east outflow canal near Vidora, Saskatchewan.	-	1947- ; (1940-46)h/.
Frenchman River above East End Reservoir (at Phillip's Ranch) near Ravenscrag, Saskatchewan.	598	1912-17; 1947- ; (1937-46)h/.
East End Canal at East End, Saskatchewan.	-	1947- ; (1937-46)h/.
East End Reservoir at East End, Saskatchewan.	-	1947-†; (1937-46†)h/.
Frenchman River below East End Reservoir, near East End, Saskatchewan.	648	1947- ; (1939-46)h/.
Frenchman River at East End, Saskatchewan	-	(1909-16; 1918-31; 1935-37)h/.
Frenchman River at Morrisons, near East End, Saskatchewan	774	1947-52; (1937-46)h/.
Frenchman River at 50-Mile (at 76 Ranch), near Bracken, Saskatchewan.	1,130	1914-21; 1947-52; (1922-31; 1935-46)h/.
Val Marie west gravity canal near Val Marie, Saskatchewan.	-	1947-; (1946)h/.
Val Marie West Reservoir near Val Marie, Saskatchewan	-	1947-†; (1940-47†)h/.
Val Marie Canal near Val Marie, Saskatchewan.	-	1947- ; (1937-46)h/.
Val Marie Reservoir near Val Marie, Saskatchewan.	-	1947-† (1937-46†)h/.
Frenchman River below Val Marie, Saskatchewan	a/1,620	1947-52; (1937-46)h/.
Frenchman River at international boundary	a/2,020	1917-
Frenchman Canal near Saco, Mont.	-	1928-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

h/ In reports of Department of Northern Affairs and National Resources, Canada.

1/ 73d Cong., 1st sess., H. Doc. 88, Milk River.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Missouri River--Continued.</u>		
<u>Milk River basin--Continued.</u>		
Beaver Creek near Malta, Mont.	1/1,130	1917-21.
Beaver Creek overflow near Bowdoin, Mont.	-	1903-6; 1908-10; 1911*; 1912.
Beaver Creek near Bowdoin, Mont.	-	1920-21.
Beaver Creek at Craig's Ranch, near Saco, Mont.	-	1903*; 1904-6; 1908-12.
Beaver Creek near Brady's Ranch, at Ashfield, Mont.	-	1918.
Beaver Creek near Hinsdale, Mont.	1/2,045	1918-21.
<u>Rock Creek:</u>		
Bowrey ditch near Barnard, Mont.	-	1914*; (1920-31)h/.
Rock Creek at international boundary (near Barnard, Mont.)	242	1914-15. 1927-
Horse Creek at international boundary (near Barnard, Mont.)	a/71	1914-17; 1918-26*; 1927-
Rock Creek below Horse Creek near international boundary (near Barnard, Mont.)	a/320	1916-26.
McEachern (McEachran) Creek at international boundary	a/160	1927-; (1924-26)h/.
Rock Creek Canal near Hinsdale, Mont.	-	1905-7*; 1918-20.
Rock Creek near Hinsdale, Mont.	1/1,396	1906-7; 1912-20.
Milk River at Hinsdale, Mont.	-	1908-14.
Milk River near Vandalia, Mont.	a/21,900	1915-20; 1928-39.
<u>Willow Creek:</u>		
Sheepshed Reservoir (on North Fork Willow Creek) Mont.	11.3	1955- 1/
Halfway Reservoir, Mont.	k/16.2	1955- 1/
Burnett Northwest Reservoir (on Lone Tree Creek) Mont.	5.0	1954- 1/
Willow Creek near Glasgow, Mont.	536	1953-
Milk River at Nashua, Mont.	a/23,300	1939-
Porcupine Creek at Nashua, Mont.	1/729	1908*; 1909-24.
<u>Little Porcupine Creek basin</u>		
Little Porcupine Creek at Frazer, Mont.	d/344	1908*; 1909-16; 1918-19.
<u>Wolf Creek basin</u>		
Wolf Creek ditch at Wolf Point, Mont.	-	1909.
Wolf Creek near Wolf Point, Mont.	d/244	1908*; 1909-14; 1950-53.
Missouri River near Wolf Point, Mont.	a/83,200	1928-; (1891-96*)c/; (1905-25*)e/.
<u>Redwater Creek basin</u>		
Redwater Creek at Circle, Mont.	534	1929-
<u>Poplar River basin</u>		
Middle Fork Poplar River at international boundary	381	1931-
East Fork Poplar River at international boundary	256	1931-
East Fork Poplar River near Scobey, Mont.	-	1935-39.
West Fork Poplar River at international boundary	141	1931-52.
West Fork Poplar River near Richland, Mont.	a/420	1935-49.
Poplar River near Bredette, Mont.	a/2,840	1934-47.
Poplar River near Poplar, Mont.	d/3,070	1908*; 1909-24; 1947-
<u>Big Muddy Creek basin</u>		
Big Muddy Creek at international boundary.	-	1949-51.
Beaver Creek near international boundary	-	1949-52.
Big Muddy Creek at Daleview, Mont.	-	1947-
Big Muddy Creek at Plentywood, Mont.	-	1948-53.
Big Muddy Creek at Reserve, Mont.	d/1,385	1920-24; 1950-53.
Wolf Creek near Medicine Lake, Mont.	d/160	1918-19.
Smoke Creek near Poplar, Mont.	-	1918.
Big Muddy Creek near Culbertson, Mont.	d/2,784	1908*; 1909-21.
Missouri River near Culbertson, Mont.	a/92,500	1941-51.
<u>Yellowstone River basin</u>		
Yellowstone Lake at Lake Hotel, Yellowstone National Park.	a/1,010	1921- *
Yellowstone River at Yellowstone Lake outlet, Yellowstone National Park.	a/1,010	1922-26*; 1926-
Yellowstone River near Canyon Hotel, Yellowstone National Park.	a/1,160	1913-51
Tower Creek at Tower Falls, Yellowstone National Park.	51	1922-43

* Gage heights or gage heights and discharge measurements only.

Fragmentary record.

a/ Approximately.

c/ In reports of Missouri River Commission.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

h/ In reports of Department of Northern Affairs and National Resources, Canada.

i/ 73d Cong., 1st sess., H. Doc. 88, Milk River.

j/ Storm runoff for summer season only (report in preparation).

k/ Includes drainage area of upstream reservoirs.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Yellowstone River basin--Continued.		
Lamar River near Tower Falls ranger station, Yellowstone National Park.	640	1922-
Blacktail Deer Creek:		
East Fork Blacktail Deer Creek near Mammoth, Yellowstone National Park.	10.3	1937-41
Blacktail Deer Creek near Mammoth, Yellowstone National Park.	14.8	1937-45
Bear Creek at Jardine, Mont.	-	1946-49.
Gardiner River:		
Lava Creek:		
Lupine Creek near Mammoth, Yellowstone National Park	4.6	1937-41
Gardiner River at Mammoth (Hotel) (near Mammoth Hot Springs), Yellowstone National Park.	198	1922-38
Gardiner River near Mammoth, Yellowstone National Park .	200	1938-
Yellowstone River at Corwin Springs (Horr), Mont.	a/2,630	1889-93; 1910-
Mill Creek near Pray, Mont.	-	1951-
Yellowstone River near Livingston, Mont.	a/3,580	1897-1905; 1928-32; 1938-
Shields River near Wilsall, Mont.	a/85	1935-
Shields River at Clyde Park, Mont.	544	1921-23; 1929-32; 1934-
Brackett Creek near Clyde Park, Mont.	56.5	1921-23; 1934-
Canyon Creek near Chadbourn, Mont.	-	1923.
Bangtail Creek at Chadbourn, Mont.	-	1923.
Willow Creek near Chadbourn, Mont.	-	1923.
North Fork Big Timber Creek near Big Timber, Mont. . . .	40	1907-11.
South Fork Big Timber Creek near Big Timber, Mont. . .	10	1907-11.
Big Timber Creek near Big Timber, Mont.	72	1912-24.
Boulder River near Contact, Mont.	236	1910-16; 1929; 1950-
East Fork Boulder River near McLeod, Mont.	-	1907-9.
West Fork Boulder River near Bruffeys, Mont.	94	1904-8; 1909-10.
West Fork Boulder River at McLeod, Mont.	137	1907-14.
Boulder River near McLeod, Mont.	-	1912-14.
Boulder River at Big Timber, Mont.	-	1947-53; 1955-
Sweetgrass Creek above Melville, Mont.	59.6	1907-24; 1937-
Sweetgrass Creek below Melville, Mont.	137	1907-24; 1937-42; 1946-52.
Sweetgrass Creek near Greycliff, Mont.	-	1941-42.
Stillwater River:		
Woodbine Creek near Nye, Mont.	-	1912-13*; 1924-27.
Stillwater River near Nye, Mont.	187	1912-13*; 1924-27; 1929-32.
East Rosebud Creek near Roscoe, Mont.	98	1920-21.
East Rosebud Creek at Roscoe, Mont.	115	1921-24.
West Rosebud Creek:		
Mystic Lake near Roscoe, Mont.	a/55	1939-†
Rosebud Creek near (at) Absarokee, Mont.	a/380	1910-14; 1935-
Stillwater River near (at) Absarokee, Mont.	a/960	1910-14; 1935-
Clarks Fork above Squaw Creek near Painter, Wyo. . . .	144	1945-51.
Clarks Fork below Crandall Creek, near Painter, Wyo. . .	401	1929-32; 1949-
Sunlight Creek near Painter, Wyo.	139	1929-32; 1945-
Clarks Fork near Clark, Wyo.	929	1919-24.
Clarks Fork at Chance, Mont.	a/1,140	1921-
Clarks Fork at Fromberg, Mont.	-	1905-13.
Clarks Fork at Edgar, Mont.	a/1,940	1921-
Rock Creek:		
Glacier Lake near Red Lodge, Mont.	a/40	1939-47†.
Rock Creek near Red Lodge, Mont.	a/100	1932; 1934-
West Fork Rock Creek below Basin Creek, near Red Lodge, Mont.	a/60	1937-
West Fork Rock Creek near Red Lodge, Mont.	a/80	1932; 1934-44.
Red Lodge Creek above Cooney Reservoir, near Boyd, Mont.	a/140	1937-
Willow Creek near Boyd, Mont.	a/45	1937-
Cooney Reservoir near Boyd, Mont.	a/210	1939-†
Red Lodge Creek below Cooney Reservoir, near Boyd, Mont.	a/210	1937-
Red Lodge Creek near Boyd, Mont.	-	1932; 1934-36.
Rock Creek at Joliet, Mont.	-	1945-53.
Rock Creek at Rockvale, Mont.	a/550	1920-22; 1932-40.
Yellowstone River at Billings, Mont.	a/11,870	1904-5; 1928-; (1905-16*)e/
Pryor Creek above Pryor, Mont.	-	1921-24.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

e/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Yellowstone River basin--Continued.		
Pryor Creek at Pryor, Mont.	-	1921-24.
Lost Creek near Pryor, Mont.	-	1921-24.
Pryor Creek near Billings (at Coburn), Mont.	a/400	1911-24; 1938-53.
Pryor Creek at Huntley, Mont.	800	1904-16.
Yellowstone River at Huntley, Mont.	a/12,000	1907-16.
Yellowstone River at Junction, Mont.	a/13,500	1906-7.
Wind River (head of Bighorn River) near Dubois, Wyo.	233	1945-
Warm Spring Creek near Dubois, Wyo.	-	1911-12*.
Horse Creek at Dubois, Wyo.	133	1910-12†.
Wind River at Dubois, Wyo.	486	1910-12.
Red Creek near Dubois, Wyo.	-	1909*.
East (North) Fork Wind River near Dubois, Wyo.	439	1950-
Dinwoody Creek near Burris (Crowheart, Lenore), Wyo.	114	1909†; 1918-30; 1950-
Wind River near Burris, Wyo.	a/1,220	1946-53.
Dry Creek near Burris (Crowheart, Lenore), Wyo.	a/57	1909*; 1921-40.
Meadow Creek near Lenore (J. K. ranch post office), Wyo.	a/55	1909*; 1921-23.
Willow Creek near Crowheart (J. K. ranch post office, Lenore), Wyo.	a/50	1909†; 1921-23; 1925-40.
Bull Lake Creek above Bull Lake Reservoir, Wyo.	178	1941-53.
Bull Lake (Reservoir on Bull Lake Creek), Wyo.	-	1938-†
Bull Lake Creek near Lenore, Wyo.	222	1918-
Wind River near Crowheart, Wyo.	a/1,920	1945-
Wyoming Canal near Lenore, Wyo.	-	1949- ; (1942-45)1/.
Pilot Canal:		
Pilot wasteway near Morton, Wyo.	-	1949-53.
Pilot Canal near Morton, Wyo.	-	1949-53; (1943-45)1/.
Wyoming Canal below Pilot diversion, near Morton, Wyo.	-	1949-53; (1941-45)1/.
Wind (Big Wind) River at (near) Riverton (near Arapahoe Agency), Wyo.	a/2,320	1906-8; 1911-27; 1928-
Middle (Middle Fork) Popo Agie River (Popo Agie River) near Lander, Wyo.	a/84	1911-12; 1918-24.
North Popo Agie River near Milford, Wyo.	a/99	1945-
North (North Fork) Popo Agie River near Lander, Wyo.	a/140	1938-53.
Popo Agie River:		
Little Popo Agie River near Lander (at Dallas), Wyo.	108	1946- ; (1914)m/.
Little Popo Agie River at Hudson, Wyo.	331	1907-9; 1911-12; 1914†; 1915-17; 1938-53; (1913-14)m/.
(South Fork) Little Wind River near		
Fort Washakie, Wyo.	118	1921-40.
North Fork Little Wind River at		
Fort Washakie, Wyo.	127	1921-40.
Little Wind River at Fort Washakie, Wyo.	-	1908-9.
Trout Creek at Wind River, Wyo.	-	1909.
Little Wind River near Arapahoe, Wyo.	a/640	1950-53.
Little Wind River above Arapahoe, Wyo.	716	1906-9; 1911-12; 1913-14†; 1915-18; (1913-14)m/.
Popo Agie (Little Wind) River below Arapahoe, Wyo.	a/1,530	1906-9; 1911-12; 1913-14†; 1915-18; (1913-14)m/.
Beaver Creek near Lander, Wyo.	118	1938-40; (1941†)m/.
Beaver Creek near Arapahoe, Wyo.	a/410	1950-53.
Popo Agie River near Riverton, Wyo.	a/2,010	1941-
Kirby Draw near Riverton, Wyo.	a/155	1951-53.
Muskrat Creek:		
Lower Fraser diversion reservoir		
(on Fraser Draw), Wyo.	27.4	1953- 1/
Mahoney reservoir (on Mahoney Draw), Wyo.	9.82	1952- 1/
Conant Creek:		
Horseshoe Creek:		
Signor Reservoir (on Signor Draw), Wyo.	7.15	1952- 1/
Rongis Reservoir (on Logan Draw), Wyo.	37.0	1954- 1/
Rongis Reservoir Canal.	-	1953 1/
Muskrat Creek near Shoshoni, Wyo.	a/760	1950-

- * Gage heights, or gage heights and discharge measurements only.
† Monthly figures of discharge or contents only.
a/ Approximately.
1/ Storm runoff for summer season only (report in preparation).
1/ In files of State engineer of Wyoming.
m/ In reports of State engineer of Wyoming.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Yellowstone River basin--Continued.		
Wind River--Continued.		
Maverick Springs Draw (head of Fivemile Creek):		
Coal Draw:		
Reservoir No. 9 (on Paintpot Draw), Wyo.	0.64	1954- <u>1/</u>
Reservoir No. 8, Wyo.	k/1.00	1954- <u>1/</u>
Reservoir No. 7, Wyo.	k/4.57	1954- <u>1/</u>
Reservoir No. 10, Wyo. . . . .	.15	1954- <u>1/</u>
Reservoir No. 6, Wyo.	k/5.07	1954- <u>1/</u>
Reservoir No. 5, Wyo.	k/5.14	1954- <u>1/</u>
Reservoir No. 4, Wyo.	k/5.77	1954- <u>1/</u>
Reservoir No. 3, Wyo.	k/5.84	1954- <u>1/</u>
Reservoir No. 1, Wyo.	k/5.91	1954- <u>1/</u>
Lower Teapot Reservoir (on Teapot Draw), Wyo.	13.5	1954- <u>1/</u>
Fivemile Creek above Wyoming Canal, near		
Pavillion, Wyo.	143	1949-
Fivemile Creek near Pavillion, Wyo.	-	1948-49.
Power line wasteway near Pavillion, Wyo.	-	1949-50.
Pavillion drain near Pavillion, Wyo.	-	1948-50.
Ocean drain at Ocean Lake outlet, near		
Pavillion, Wyo.	-	1948-53.
Ocean drain near Pavillion, Wyo.	-	1948-53.
Dudley wasteway near Pavillion, Wyo.	-	1949-50.
Kellett drain near Pavillion, Wyo.	-	1948-50.
Dewey drain near Pavillion, Wyo.	-	1948-50.
Fivemile 76 drain near Riverton, Wyo.	-	1949-50.
Sand Gulch drain and wasteway near Riverton, Wyo.	-	1949-50.
Fivemile Creek near Riverton, Wyo.	342	1949-
Lost Wells Butte drain near Riverton, Wyo.	-	1949-50.
Coleman drain near Shoshoni, Wyo.	-	1948-50.
Sand Gulch near Shoshoni, Wyo.	-	1948-53.
Eagle drain near Shoshoni, Wyo.	-	1948-50.
Lateral P-34.9 wasteway near Shoshoni, Wyo.	-	1949-50.
Fivemile Creek near Shoshoni, Wyo.	397	1941-42; 1948-
Lateral P-36.8 wasteway near Shoshoni, Wyo.	-	1949-50.
Poison Creek:		
Graham Draw:		
East Fork Reservoir, Wyo. . . . .	.81	1949- <u>1/</u>
West Fork Reservoir, Wyo. . . . .	.38	1947- <u>1/</u>
Graham Reservoir, Wyo.	k/3.12	1947- <u>1/</u>
Poison Creek near Shoshoni, Wyo.	519	1949-50; 1950-52†; 1952-53.
Badwater Creek at Lybyer Ranch, near Lost Cabin, Wyo.	138	1948-
Badwater Creek at Lost Cabin, Wyo.	178	1945-48.
Badwater Creek at Bonneville, Wyo.	a/790	1947-
Muddy Creek near Pavillion, Wyo.	257	1949-
Muddy Creek near Shoshoni, Wyo.	a/340	1949-
Dry Cottonwood Creek near Bonneville, Wyo.	a/170	1949-53.
Wind River below Boysen Reservoir (Dam), Wyo.	7,741	1951-
Bighorn River at Thermopolis, Wyo.	a/8,080	1900-1905; 1910-12; 1913-14†; 1915-53; (1913-14)m/.
South Fork Owl Creek near Anchor, Wyo.	a/86	1939-43.
South Fork Owl Creek above Curtis Ranch, near Thermopolis, Wyo.	139	1943-
South Fork Owl Creek at Curtis Ranch, near Thermopolis, Wyo.	142	1931-32; 1938-43.
South Fork Owl Creek near Thermopolis (Owl Creek near Ember), Wyo.	191	1921-22; 1929-32.
North Fork Owl Creek near Anchor, Wyo.	54.9	1941-
North Fork Owl Creek at Crann Ranch, near Thermopolis, Wyo.	a/97	1938-39.
North Fork Owl Creek near Thermopolis, Wyo.	100	1930-32.
Mud Creek near Thermopolis, Wyo.	118	1938-39.
Owl Creek near Thermopolis, Wyo.	484	1910-12; 1915-17; 1931-32; 1938-; (1913-14)m/.
Owl Creek near Lucerne, Wyo.	505	1932-33; 1938-53.
Kirby Creek near Lucerne, Wyo.	240	1941-45.
Cottonwood Creek at Winchester, Wyo.	432	1944-45; (1941-44†)m/.

† Monthly figures of discharge or contents only.

a/ Approximately.

† Storm runoff for summer season only (report in preparation).

k/ Includes drainage area of upstream reservoirs.

m/ In reports of State engineer of Wyoming.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Yellowstone River basin--Continued.		
Bighorn River--Continued.		
Gooseberry Creek near Grass Creek, Wyo.	155	1945-
Gooseberry Creek near Dickie, Wyo.	303	1938-40; (1940-41+)m/.
Gooseberry Creek at Pulliam, Wyo.	371	1914-43; 1945-46; 1947-53; (1943-44+)m/.
Fifteenmile Creek:		
Red Snires Reservoir (on Rock Waterhole Creek), Wyo.	5.24	1954- 1/
Big Gin Reservoir (on unnamed tributary), Wyo. . . . .	.94	1954- 1/
Fifteenmile Creek near Worland, Wyo.	a/500	1951- ; (1941-44+)m/.
Bighorn River near Manderson, Wyo.	-	1949-53.
Bighorn River at Manderson, Wyo.	a/11,900	1941-49.
Nowood Creek near Tensleep, Wyo.	805	1938-43; 1950-55.
Tensleep Creek:		
Canyon Creek near Tensleep, Wyo.	66.3	1939-44.
Tensleep Creek near Tensleep, Wyo.	228	1910-12; 1915-24; 1943-
Paintrock Creek below Lake Solitude, Wyo.	15.1	1946-53.
Paintrock Creek at Longview ranger station near Hyattville, Wyo.	a/81	1911-12*.
Paintrock Creek near Hyattville, Wyo.	164	1920-27; 1941-55.
Medicine Lodge Creek near Hyattville, Wyo.	a/86	1943-
Paintrock Creek near Bonanza, Wyo.	398	1910-12; 1912-13+; 1915-22; (1912-13)m/.
Nowood Creek at Bonanza, Wyo.	a/1,790	1910-12; 1913-14+; 1915-28; (1913-14)m/.
Greybull River near Pitchfork, Wyo.	309	1946-49; 1951-
Wood River at Sunshine, Wyo.	a/200	1945-
Wood River near Meeteetse, Wyo.	218	1910-12; 1915-16; 1917*; 1930-49.
Greybull River near Meeteetse, Wyo.	a/680	1910-12; 1915-16.
Greybull River at Meeteetse, Wyo.	a/690	1897; 1903*; 1920-
Bench Canal near Burlington, Wyo.	-	1930-38.
Greybull River near Basin, Wyo.	a/1,130	1930-
Dry Creek at Greybull, Wyo.	-	1951-53.
Shell Creek near Shell, Wyo.	148	1941-
Shell Creek at (near) Shell, Wyo.	256	1913-14+; 1915-23; (1911-14)m/.
Bighorn River at Kane, Wyo.	a/15,900	1928-
North Fork Shoshone River near Wapiti, Wyo.	a/800	1921-26.
South Fork Shoshone River (Shoshone River) near Ishawood, Wyo.	532	1915-24.
South Fork Shoshone River (Shoshone River) above Buffalo Bill (Shoshone) Reservoir (at Marquette), Wyo.	-	1903; 1905-8; 1921-26.
Buffalo Bill (Shoshone) Reservoir, Wyo.	-	1938-41; 1941- +
Shoshone River below Buffalo Bill (Shoshone) Reservoir, Wyo.	a/1,570	1921-
Shoshone River at Cody, Wyo.	-	1902-9.
Shoshone River at Corbett Dam, Wyo.	-	1908-25.
Garland Canal (Corbett Tunnel) at Corbett Dam, Wyo.	-	1909-20; 1922-24+; 1925-26.
Shoshone River at Willwood Dam, Wyo.	a/1,820	1925-26.
Bitter Creek near Garland, Wyo.	-	1950-53.
Shoshone River at Byron, Wyo.	a/2,300	1929-
Sage Creek near Lovell, Wyo.	-	1951-
Shoshone River at Lovell, Wyo.	-	1897-98; 1899*.
Bighorn Canal below wasteway, near St. Xavier, Mont.	-	1947-51
Bighorn River near St. Xavier, Mont.	a/19,600	1934-
Soap Creek near St. Xavier, Mont.	111	1911-24; 1939-53.
Rotten Grass Creek near St. Xavier, Mont.	a/155	1911-22.
Bighorn River near Hardin (Fort Custer), Mont.	a/20,700	1904-25; 1928-33.
Little Bighorn (Little Horn) River at State line, near Wyola, Mont.	199	1939-
Little Bighorn River near Wyola, Mont.	a/260	1911*; 1912-24.
Pass Creek near Wyola, Mont.	119	1935-
Little Bighorn (Little Horn) River below Pass Creek, near Wyola, Mont.	429	1939-
Owl Creek near Lodgegrass, Mont.	161	1939-45.
Lodgegrass Creek above Willow Creek diversion, near Wyola, Mont.	a/83	1939-

* Gage heights, or gage heights and discharge measurements only.
+ Monthly figures of discharge or contents only.
a/ Approximately.
m/ Storm runoff for summer season only (report in preparation).
m/ In reports of State engineer of Wyoming.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Yellowstone River basin--Continued.		
Bighorn River--Continued.		
Little Bighorn River--Continued.		
Lodgegrass Creek near Wyola, Mont.	-	1921-24.
Lodgegrass Creek near Lodgegrass, Mont.	a/143	1911*; 1912-15; 1921-24.
Lodgegrass Creek at Lodgegrass, Mont.	a/173	1916-20.
Little Bighorn (Little Horn) River near Crow Agency, Mont.	1,190	1905-6; 1912-24; 1928-32; 1938-
Little Bighorn River near Hardin, Mont.	-	1953-
Bighorn River near Custer, Mont.	-	1945-
Yellowstone River at Forsyth, Mont.	a/40,200	1921-23.
Rosebud Creek near Rosebud, Mont.	a/1,320	1938-43.
Rosebud Creek near Forsyth, Mont.	-	1947-53.
North Fork Tongue River near Dayton, Wyo.	32.4	1945-
South Fork Tongue River near Dayton, Wyo.	85.0	1945-
Highline ditch near Dayton, Wyo.	-	1941-†
Tongue River near Dayton, Wyo.	204	1911-12*; 1918-29; 1940-
Little Tongue River near Dayton, Wyo.	25.1	1951-53; 1955-
Tongue River at Dayton, Wyo.	-	1903*; (1909†)1/.
Wolf Creek at Wolf, Wyo.	37.8	1945-
Tongue River at Carneyville, Wyo.	495	1911-12; 1915-17; (1912-13)m/.
East Goose Creek near Big Horn, Wyo.	20.9	1953-
Cross Creek near Big Horn, Wyo.	10.9	1953-
West Goose Creek near Big Horn, Wyo.	24.4	1953-
Goose Creek near Sheridan, Wyo.	120	1929-
Goose Creek at Sheridan, Wyo.	182	1911-12; 1915-16; (1909-10†; 1913)m/.
Little Goose Creek:		
Willow Creek near Big Horn, Wyo.	2.99	1953-
Little Goose Creek in canyon, near Big Horn, Wyo.	51.0	1941-
Little Goose Creek near Big Horn, Wyo.	a/71	1919-21.
Little Goose Creek at Sheridan, Wyo.	159	1896-97; 1911-12; (1909-10†)m/.
Goose Creek below Little Goose Creek at Sheridan, Wyo.	341	1895*; 1896-97.
Goose Creek below Sheridan, Wyo.	392	1942-
Tongue River near Acme, Wyo.	894	1938-
Tongue River near Decker, Mont.	a/1,610	1928-38.
Tongue River Reservoir near Decker, Mont.	a/1,740	1939-†
Tongue River at Tongue River Dam, near Decker, Mont.	a/1,740	1939-
Tongue River near Miles City, Mont.	-	1929-32.
Tongue River at (near) Miles City, Mont.	-	1938-42; 1946-
Yellowstone River at Miles City, Mont.	a/48,500	1922-23; 1928-
South Fork Powder River near Kaycee, Wyo.	a/1,150	1911*; 1938-40; 1950-
Middle Fork Powder River above Kaycee, Wyo.	a/450	1949-
Red Fork near Barnum, Wyo.	142	1929-32; 1950-53.
Middle Fork Powder River at Kaycee, Wyo.	647	1911-12; 1929-32.
North Fork Powder River near Hazelton, Wyo.	25.0	1946-
North Fork Powder River near Mayoworth, Wyo.	106	1940-
North Fork Powder River near Kaycee, Wyo.	244	1911*; 1929-32.
Middle Fork Powder River near Kaycee, Wyo.	a/980	1933-34; 1938-
Powder River at Sussex, Wyo.	a/3,090	1938-40; 1950-
North Fork Crazy Woman Creek near Buffalo, Wyo.	44.9	1944-49.
North Fork Crazy Woman Creek below Spring Draw, near Buffalo, Wyo.	51.7	1949-
North Fork Crazy Woman Creek near Greub, Wyo.	174	1950-
Middle Fork Crazy Woman Creek near Greub, Wyo.	82.7	1944-
Crazy Woman Creek near Buffalo, Wyo.	464	1929-32.
Crazy Woman Creek near Arvada, Wyo.	956	1939-43; 1950-
Powder River at (near) Arvada, Wyo.	a/6,050	1915-
Clear Creek:		
North Fork Clear Creek near Buffalo, Wyo.	29.0	1949-
Clear Creek at Camp Comfort, near Buffalo, Wyo.	a/110	1911-12*.
Clear Creek near Buffalo, Wyo.	a/120	1894; 1896-1900; 1917-27; 1938-
Clear Creek at Buffalo, Wyo.	a/130	1902*; 1903-4; 1911-12.
South Fork Rock Creek near Buffalo, Wyo.	43.8	1950-53.
Rock Creek near Buffalo, Wyo.	60.0	1944-

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† Monthly figures of discharge or contents only.

a/ Approximately.

1/ In files of State engineer of Wyoming.

m/ In reports of State engineer of Wyoming.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Yellowstone River basin--Continued.		
Powder River--Continued.		
Clear Creek--Continued.		
South Piney Creek at Willow Park, Wyo.	28.9	1945-
South Piney Creek near Story, Wyo.	70.5	1951-
North Piney Creek near Story, Wyo.	37.7	1951-
Cruez ditch near Story, Wyo.	-	1903*.
Prairie Dog ditch near Story, Wyo.	-	1903*.
Piney Creek at Kearney, Wyo.	106	1902†; 1903-6; 1911-12; 1913-14†; 1915-17; 1919-23; 1940-; (1910†; 1913)m/.
Piney Creek at Ucross, Wyo.	267	1917-19; 1920-23; 1950-
Clear Creek near Arvada, Wyo.	a/1,110	1915-19; 1928-29; 1939-
Powder River at Moorhead, Mont.	a/8,030	1929-
Little Powder River at Biddle, Mont.	a/1,540	1938-43.
Little Powder River near Broadus, Mont.	-	1947-53.
Powder River near Mizpah, Mont.	a/11,900	1928-33.
Powder River near Locate, Mont.	a/12,900	1938-
Upper Sevenmile Creek near Glendive, Mont.	-	1921-22.
Yellowstone River at Glendive, Mont.	a/65,900	1897-1902*; 1903-10; 1931-34; (1909-28*)e/.
Deer Creek near Glendive, Mont.	-	1921-22.
Lower Yellowstone Canal at Lower Yellowstone Dam, at Intake, Mont.	-	1911.
Yellowstone River at Intake, Mont.	a/66,800	1911-31.
Yellowstone River near Sidney, Mont.	n/69,450	1934-
Missouri River near Williston, N. Dak.	a/164,500	1897-1928†o/; 1928-; (1909-11*; 1913-*)e/.
<u>Little Muddy Creek basin</u>		
Blacktail Creek near Bonetrail, N. Dak.	-	1955-
Little Muddy Creek below Cow Creek near Williston, N. Dak.	875	1954-
Little Muddy Creek (River) near Williston, N. Dak.	a/1,010	1904-9; 1932-33; 1945-54.
<u>White Earth River basin</u>		
White Earth River at White Earth, N. Dak.	490	1954-
Missouri River at Sanish, N. Dak.	d/167,100	1928-32.
<u>Little Missouri River basin</u>		
Thompson Creek:		
North Creek Spreader Diversion near Alzada, Mont.	1.29	1952-
Little Missouri River at Alzada, Mont.	a/600	1904-5; 1906*.
Little Missouri River near Alzada, Mont.	a/780	1911-25; 1928-32; 1935-
Little Missouri River at Camp Crook, S. Dak.	1,900	1903*; 1904-6.
Little Beaver Creek near Marmarth, N. Dak.	615	1938-
Little Missouri River at Marmarth, N. Dak.	a/4,570	1938-
Little Missouri River at Medora, N. Dak.	a/6,190	1903-8; 1921-24; 1928-34; 1945-; (1909-16*)e/; (1924-26†)d/.
Beaver Creek at Wibaux, Mont.	351	1938-
Little Missouri River near Watford City, N. Dak.	a/8,490	1934-
Missouri River near Elbowoods, N. Dak.	a/179,800	1939-53.
Garrison Reservoir near Riverdale, N. Dak.	a/181,400	1953-
Missouri River at Mannhaven, N. Dak.	a/181,400	1904*.
Missouri River below Garrison Dam, N. Dak.	a/181,400	1948-
<u>Knife River basin</u>		
Knife River near Golden Valley (at Broncho, near Broncho), N. Dak.	a/1,230	1903-19; 1921-24; 1943-; (1921-25†; 1927†)p/.
Spring Creek at Zap, N. Dak.	545	1924; 1945-; (1924-27†)d/.
Knife River at Hazen, N. Dak.	a/2,350	1928-33; 1937-
Missouri River at Washburn, N. Dak.	d/183,860	1905*; (1918-24*; 1928*; 1936*; 1939*)d/.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

m/ In reports of State engineer of Wyoming.

n/ At highway bridge 4½ miles downstream.

o/ In U. S. Geological Survey Circular 108.

p/ In reports of State engineer of North Dakota.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Missouri River--Continued.</u>		
<u>Painted Woods Creek basin</u>		
Painted Woods Creek near Washburn, N. Dak.	390	1909-10*; (1909-10†)d/.
Turtle Creek near Washburn, N. Dak.	440	1909-10*; (1909-10†)d/.
Missouri River at Bismarck, N. Dak.	a/186,400	1904-5; 1927- ; (1881-82*; 1886-99*)c/; (1891- *)e/.
<u>Heart River basin</u>		
Heart River near South Heart (near Dickinson), N. Dak. .	315	1946-
Dickinson Reservoir near Dickinson, N. Dak.	a/400	1950- †
Heart River below Dickinson Dam near Dickinson, N. Dak..	404	1951-
Heart River at Lehigh, N. Dak.	443	1943-52.
Green River near Oladstone, N. Dak.	356	1945-
Heart River near Richardton, N. Dak.	a/1,240	1903-22; 1943- ; (1903-24†)d/.
Heart Butte Reservoir near Glen Ullin, N. Dak.	a/1,710	1949- †
Heart River below Heart Butte Dam, near Glen Ullin, N. Dak.	a/1,710	1943-
Antelope Creek near Carson, N. Dak.	221	1948-
Muddy Creek near Almont, N. Dak.	456	1945-
Heart River near Lark, N. Dak.	a/2,750	1946-
Sweetbriar Creek near Judson, N. Dak.	157	1951-
Heart River near Mandan (at Sunny), N. Dak.	a/3,310	1924; 1928-33; 1937- ; (1924-37†)d/.
<u>Apple Creek basin</u>		
Apple Creek near Menoken (Bismarck), N. Dak.	q/1,680	1905; 1945-
<u>Cannonball River basin</u>		
Cannonball River at Regent, N. Dak.	a/580	1950-
Cannonball River at Bentley, N. Dak.	-	1951.
Cannonball River below Bentley (near New Leipzig), N. Dak.	a/1,140	1943-
Cannonball River near Heil, N. Dak.	a/1,340	1950-53.
Cedar Creek near Haynes, N. Dak.	553	1950-
Cedar Creek near Pretty Rock, N. Dak.	a/1,340	1943-
Cedar Creek near Raleigh, N. Dak.	1,720	1939.
Cannonball River near Timmer (Stevenson), N. Dak.	3,650	1903-8; 1911-18; 1921-22; 1923-24; 1928-34.(1921-31†)d/.
Cannonball River at Breien, N. Dak.	a/4,100	1934-
<u>Beaver Creek basin</u>		
Beaver Creek at Linton, N. Dak.	r/717	1949-
<u>Grand River basin</u>		
North Fork (Branch) Grand River at Haley, N. Dak.	509	1908-10; 1912-17; 1945-; (1908-20†)a/.
North Fork Grand River near White Butte, S. Dak.	a/1,190	1945-
South Fork Grand River at Buffalo, S. Dak.	-	1955-
South Fork Grand River near Cash, S. Dak.	a/1,350	1945-
Shadehill Reservoir at Shadehill, S. Dak.	a/3,120	1950- †
Grand River at Shadehill, S. Dak.	a/3,120	1943-
Grand River near Wakpala, S. Dak.	a/5,510	1912-14; 1915†; 1916-17; 1918*; 1928-; (1912-17†; 1928-31†)d/.
Missouri River at Mobridge, S. Dak.	a/208,700	1928-
<u>Moreau River basin</u>		
Moreau (Owl) River at Bixby, S. Dak.	a/1,570	1904-6; 1948-
Moreau River near Faith, S. Dak.	a/2,660	1943-
Moreau River near Eagle Butte, S. Dak.	a/4,320	1943-
Moreau River near Whitehorse, S. Dak.	-	1954-
Moreau River at Promise, S. Dak.	5,223	1928-
<u>Cheyenne River basin</u>		
Antelope Creek (head of Cheyenne River):		
Wind Creek:		
Reservoir No. 13, Wyo. . . . .	.60	1951-54 j/
Sand Creek:		
Reservoir No. 35A, Wyo. . . . .	.61	1952-54 j/
Bear Creek:		
Reservoir No. 36, Wyo. . . . .	.48	1951-54 j/

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

c/ In reports of Missouri River Commission.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

g/ Approximately, includes about 500 sq mi which are probably noncontributing.

j/ Storm runoff for summer season only (report in preparation).

a/ 73d Cong., 1st sess., H. Doc. 76, Cannonball, Grand, and Moreau Rivers.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Cheyenne River basin--Continued.		
Reservoir No. 13A, Wyo.	0.28	1952-54 $\frac{1}{2}$
Porcupine Creek:		
Reservoir No. 10B, Wyo. . . . .	.20	1953-54 $\frac{1}{2}$
Reservoir No. 10A, Wyo. . . . .	.43	1953-54 $\frac{1}{2}$
Reservoir No. 11, Wyo.	2.46	1951-54 $\frac{1}{2}$
Dry Fork:		
Reservoir No. 40, Wyo. . . . .	.71	1951-54 $\frac{1}{2}$
Reservoir No. 33A, Wyo. . . . .	.44	1953-54 $\frac{1}{2}$
Cheyenne River:		
Unnamed tributaries:		
Reservoir No. 14, Wyo.	10.9	1950-51 $\frac{1}{2}$; 1953-54 $\frac{1}{2}$
Reservoir No. 31, Wyo. . . . .	.35	1951-52 $\frac{1}{2}$
Reservoir No. 30, Wyo.	1.31	1951-52 $\frac{1}{2}$
Reservoir No. 32, Wyo. . . . .	.59	1951-52 $\frac{1}{2}$
Reservoir No. 26, Wyo.	1.51	1951-52 $\frac{1}{2}$
Reservoir No. 22, Wyo. . . . .	.02	1951-54 $\frac{1}{2}$
Reservoir No. 28, Wyo. . . . .	.68	1951-52 $\frac{1}{2}$
Reservoir No. 27, Wyo.	1.09	1951-52 $\frac{1}{2}$
Reservoir No. 24, Wyo. . . . .	.52	1951-52 $\frac{1}{2}$
Reservoir No. 23, Wyo.	2.67	1951-52 $\frac{1}{2}$
Reservoir No. 21, Wyo. . . . .	.31	1951-52 $\frac{1}{2}$
Reservoir No. 18, Wyo. . . . .	.30	1951-52 $\frac{1}{2}$
Reservoir No. 17, Wyo. . . . .	.06	1951-54 $\frac{1}{2}$
Reservoir No. 25, Wyo. . . . .	.56	1951-54 $\frac{1}{2}$
Reservoir No. 20, Wyo. . . . .	.11	1951-52 $\frac{1}{2}$
Reservoir No. 19, Wyo. . . . .	.92	1951-54 $\frac{1}{2}$
Reservoir No. 16, Wyo. . . . .	.18	1951-52 $\frac{1}{2}$
Reservoir No. 15, Wyo.	9.58	1951-54 $\frac{1}{2}$
Black Thunder Creek:		
Little Thunder Creek:		
Unnamed tributaries:		
Reservoir No. 10, Wyo. . . . .	.66	1951-54 $\frac{1}{2}$
Reservoir No. 12, Wyo. . . . .	.28	1951-52 $\frac{1}{2}$
Reservoir No. 7A (on unnamed tributary), Wyo. . . . .	.23	1953-54 $\frac{1}{2}$
Lodgepole Creek:		
Unnamed tributaries:		
Reservoir No. 8, Wyo. . . . .	.10	1951-54 $\frac{1}{2}$
Reservoir No. 9, Wyo. . . . .	.94	1951-54 $\frac{1}{2}$
Reservoir No. 7, Wyo.	2.68	1951-54 $\frac{1}{2}$
Reservoir No. 7B, Wyo.	1.40	1953-54 $\frac{1}{2}$
Boggy Creek:		
Reservoir No. 35, Wyo.	7.52	1951-54 $\frac{1}{2}$
Lance Creek:		
Lightning Creek:		
Reservoir No. 55, Wyo. . . . .	.05	1953-54 $\frac{1}{2}$
Box Creek:		
Reservoir No. 41, Wyo.	1.27	1951-54 $\frac{1}{2}$
Walker Creek:		
Unnamed tributaries:		
Reservoir No. 56, Wyo. . . . .	.70	1953-54 $\frac{1}{2}$
Reservoir No. 57, Wyo. . . . .	.21	1953-54 $\frac{1}{2}$
Dry Creek:		
Reservoir No. 36A, Wyo. . . . .	.41	1953-54 $\frac{1}{2}$
Twentymile Creek:		
Reservoir No. 58 (on unnamed tributary), Wyo. . . . .	.07	1953-54 $\frac{1}{2}$
Reservoir No. 42 (on Twentymile Draw), Wyo. . . . .	.33	1951-54 $\frac{1}{2}$
Cow Creek:		
Unnamed tributaries:		
Reservoir No. 34, Wyo. . . . .	.34	1951-54 $\frac{1}{2}$
Reservoir No. 37, Wyo.	2.47	1951 $\frac{1}{2}$, 1953-54 $\frac{1}{2}$
Reservoir No. 38, Wyo.	1.70	1951-54 $\frac{1}{2}$
Dogle Creek:		
Reservoir No. 33, Wyo. . . . .	.73	1951-54 $\frac{1}{2}$
Crazy Woman Creek:		
Unnamed tributaries:		
Reservoir No. 43, Wyo.	1.26	1951-54 $\frac{1}{2}$
Reservoir No. 43A, Wyo. . . . .	.18	1953-54 $\frac{1}{2}$
Old Woman Creek:		
Sage Creek:		
Reservoir No. 44, Wyo. . . . .	.92	1951-54 $\frac{1}{2}$
Lance Creek at Spencer, Wyo.	$\frac{a}{2,070}$	1948-54.
(South Fork) Cheyenne River near Spencer, Wyo.	$\frac{a}{5,270}$	1948-

$\frac{a}{2}$ Approximately

$\frac{1}{2}$ Storm runoff for summer season only (report in preparation).

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Cheyenne River basin--Continued.		
Unnamed tributaries:		
Reservoir No. 39, Wyo.	0.52	1951-54 $\frac{1}{2}$
Reservoir No. 39A, Wyo. . . . .	.12	1953-54 $\frac{1}{2}$
Beaver Creek:		
Unnamed tributary:		
Reservoir No. 3, Wyo. . . . .	.25	1951-54 $\frac{1}{2}$
Skull Creek:		
Oil Creek:		
Reservoir No. 4, Wyo. . . . .	.11	1951-54 $\frac{1}{2}$
Blacktail Creek:		
Reservoir No. 6, Wyo.	3.60	1951-54 $\frac{1}{2}$
Unnamed tributaries:		
Reservoir No. 6A, Wyo. . . . .	.44	1953-54 $\frac{1}{2}$
Reservoir No. 6C, Wyo. . . . .	.16	1954 $\frac{1}{2}$
Reservoir No. 6B, Wyo.	1.52	1953-54 $\frac{1}{2}$
Stockade Beaver Creek:		
Unnamed tributaries:		
Reservoir No. 1, Wyo. . . . .	.08	1951-54 $\frac{1}{2}$
Reservoir No. 5, Wyo. . . . .	.54	1951-54 $\frac{1}{2}$
Salt Creek:		
Reservoir No. 2, Wyo.	6.06	1951-52 $\frac{1}{2}$
Reservoir No. 5A, Wyo.	1.39	1953-54 $\frac{1}{2}$
Redbird Canyon:		
Gillette Canyon:		
Reservoir No. 45, S. Dak.	1.02	1951-54 $\frac{1}{2}$
Unnamed tributary:		
Reservoir No. 46, S. Dak. . . . .	.30	1951-54 $\frac{1}{2}$
Beaver Creek near Newcastle, Wyo.	a/1,320	1943; 1944-
Beaver Creek near Burdock (Edgemont), S. Dak.	a/1,540	1905-6; 1929-32; (1904-6†; 1928-29†)t/
Cheyenne River at Edgemont, S. Dak.	7,143	1903-6; 1928-33; 1946- ; (1927-29†)t/
Cottonwood Creek:		
Unnamed tributaries:		
Reservoir 47B, S. Dak. . . . .	.05	1953-54 $\frac{1}{2}$
Reservoir 47A, S. Dak. . . . .	.05	1953-54 $\frac{1}{2}$
Hat Creek:		
Sowbelly Creek:		
Reservoir No. 54, Nebr. . . . .	.42	1951-54 $\frac{1}{2}$
Antelope Creek:		
Unnamed tributaries:		
Reservoir No. 52, Nebr.	5.72	1951-54 $\frac{1}{2}$
Reservoir No. 51, Nebr. . . . .	.12	1951-54 $\frac{1}{2}$
Indian Creek:		
Unnamed tributaries:		
Reservoir No. 50, Nebr. . . . .	.36	1951-52 $\frac{1}{2}$; 1954 $\frac{1}{2}$
Reservoir No. 50A, S. Dak. . . . .	.40	1953-54 $\frac{1}{2}$
Unnamed tributary:		
Reservoir No. 49, S. Dak. . . . .	.38	1951-54 $\frac{1}{2}$
Plains Creek:		
Reservoir No. 48, S. Dak. . . . .	.06	1951-54 $\frac{1}{2}$
Hat Creek near Edgemont, S. Dak.	1,044	1905-6; 1950-; (1904-6†)t/.
Cheyenne River near Hot Springs		
(Cascade Springs), S. Dak.	a/8,710	1914-20; 1943-
Angostura Reservoir near Hot Springs, S. Dak.	a/9,100	1949-†
Cheyenne River below Angostura Dam, S. Dak.	a/9,100	1945-
Fall River at Hot Springs, S. Dak.	137	1937-
Beaver Creek near Buffalo Gap, S. Dak.	a/130	1937-
French Creek near Custer, S. Dak.	98	1945-47.
French Creek near Fairburn, S. Dak.	129	1945-47.
Battle Creek near Keystone, S. Dak.	66	1945-47.
Battle Creek near Hermosa, S. Dak.	108	1945-47.
Squaw Creek near Custer, S. Dak.	25.2	1945-47.
Squaw Creek near Hermosa, S. Dak.	27.5	1945-47.
Battle Creek at Hermosa, S. Dak.	178	1903*; 1949-
Battle Creek below Hermosa, S. Dak.	285	1950-53.
Spring Creek near Hill City, S. Dak.	142	1937-40.
Spring Creek near Keystone, S. Dak.	159	1945-47.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

 $\frac{1}{2}$ Storm runoff for summer season only (report in preparation).

t/ 72d Cong., 1st sess., H. Doc. 190, Cheyenne River.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Cheyenne River basin--Continued.		
Spring Creek near Rapid City (Rapid), S. Dak.	171	1903-5; 1945-47.
Spring Creek near Hermosa, S. Dak.	199	1949-
Rapid Creek:		
Castle Creek above Deerfield Reservoir near Hill City (Deerfield), S. Dak.	a/83	1948-
Deerfield Reservoir near Hill City (Deerfield), S. Dak.	a/95	1947- †
Castle Creek below Deerfield Dam, S. Dak.	a/96	1946-
Rapid Creek above Pactola Reservoir at Silver City, S. Dak.	292	1953-
Pactola Reservoir near Silver City, S. Dak.	a/320	1955-
Rapid Creek below Pactola Dam (near Pactola), S. Dak.	a/320	1929-32; 1946-; (1928-29†)t/.
Rapid Creek at Big Bend, S. Dak.	332	1915-17; 1932-42; (1915-42†)u/.
Rapid Creek above Canyon Lake, near Rapid City, S. Dak.	371	1946-
Bennett ditch at Rapid City, S. Dak.	-	1946-51†.
Leedy ditch at Rapid City, S. Dak.	-	1946-51†.
Rapid Creek at Rapid City (Rapid), S. Dak.	a/410	1903-6; 1942-
Iowa ditch at Rapid City, S. Dak.	-	1946-53†.
Lockhart ditch at Rapid City, S. Dak.	-	1946-53†.
Hawthorn ditch at Rapid City, S. Dak.	-	1946-53†.
Rapid Creek below Hawthorn ditch, at Rapid City, S. Dak.	427	1946-53.
Murphy ditch near Rapid City, S. Dak.	-	1946-53†.
Cyclone ditch near Rapid City, S. Dak.	-	1946-53†.
South Side ditch near Rapid City, S. Dak.	-	1946-53†.
Little Giant ditch near Rapid City, S. Dak.	-	1946-53†.
Rapid Creek below Little Giant ditch, near Rapid City, S. Dak.	447	1946-51.
Lone Tree ditch near Rapid City, S. Dak.	-	1946-53†.
St. Germain ditch at Caputa, S. Dak.	-	1946-53†.
Rapid Creek at Caputa, S. Dak.	509	1946-53.
Hammerquist ditch near Farmingdale, S. Dak.	-	1946-53†.
Corbin-Morse ditch at Rapid, S. Dak.	-	1906*.
Rapid Creek near Farmingdale, S. Dak.	602	1946-
Rapid Creek at Creston, S. Dak.	710	1929-32.
Boxelder Creek near Nemo, S. Dak.	96	1945-47.
Boxelder Creek at Blackhawk, S. Dak.	128	1903-5; 1945-47.
Cheyenne River near Wasta, S. Dak.	a/12,800	1914-15; 1928-32; 1934-
Elk Creek near Roubaux, S. Dak.	21	1945-47.
Elk Creek above Piedmont, S. Dak.	49	1945-47.
Elk Creek near Piedmont, S. Dak.	100	1903*.
Elk Creek near Elm Springs, S. Dak.	540	1949-
Belle Fourche River near Moorcroft, Wyo.	a/1,380	1923-32.
Belle Fourche River below Moorcroft, Wyo.	a/1,670	1943-
Keyhole Reservoir near Moorcroft, Wyo.	a/2,000	1952- †
Belle Fourche River below Keyhole Reservoir, Wyo.	a/2,000	1951-
Belle Fourche River at Hulett, Wyo.	a/2,800	1929-32; 1938-51.
Belle Fourche River at Wyoming-South Dakota State line.	a/3,280	1946-
Belle Fourche River at Belle Fourche, S. Dak.	a/3,360	1903-6.
Redwater Creek near Beulah, Wyo.	459	1929-31; 1936-37.
Murray ditch at Wyoming-South Dakota State line	-	1954-
Redwater Creek at Wyoming-South Dakota State line	471	1954-
Spearfish Creek near Spearfish, S. Dak.	157	1904-6.
Spearfish Creek at Spearfish, S. Dak.	168	1946-
Spearfish Creek at Toomey's Ranch near Spearfish, S. Dak.	179	1903.
Redwater Canal at Minnesela, S. Dak.	-	1904-6.
Redwater Creek above Belle Fourche, S. Dak.	920	1945-
Hay Creek at Belle Fourche, S. Dak.	121	1953-
Redwater Creek (River) at Belle Fourche, S. Dak.	a/1,020	1903-6.
Inlet Canal near Belle Fourche, S. Dak.	-	1945-
Owl Creek:		
Belle Fourche Reservoir near Belle Fourche, S. Dak.	-	1912- †
Belle Fourche River near Belle Fourche, S. Dak.	4,310	1906; 1912-40; (1905-6†; 1911-29†)t/.
Belle Fourche River near Fruitdale, S. Dak.	4,540	1945-
Indian Creek near Belle Fourche, S. Dak.	-	1904*.
Belle Fourche River near Sturgis, S. Dak.	5,870	1945-
Bear Butte Creek near Sturgis, S. Dak.	192	1945-
Belle Fourche River near Elm Springs, S. Dak.	a/7,210	1928-32; 1934-

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

t/ 72d Cong., 1st sess., H. Doc. 190, Cheyenne River.

u/ In Special Report No. 8, Soil Conservation Service, U. S. Dept. of Agriculture.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Cheyenne River basin--Continued.		
Cheyenne River near Plainview, S. Dak.	21,600	1950-
Cherry Creek near Plainview, S. Dak.	1,190	1945-
Cheyenne River near Eagle Butte (Carlin, Elwood), S. Dak. <u>a</u> /24,500		1928-
Missouri River at Pierre, S. Dak.	<u>a</u> /243,500	1929-; (1882*; 1895-99*) <u>c</u> /; (1891-1916*;1918-*) <u>e</u> /.
<u>Bad River basin</u>		
Bad River:		
North Fork Bad River near Philip, S. Dak.	164	1939-44.
Bad River near Midland, S. Dak.	<u>a</u> /1,500	1946-
Bad River near Fort Pierre, S. Dak.	3,107	1928-32; 1934-
<u>Medicine Creek basin</u>		
Medicine Creek near Blunt, S. Dak.	455	1950-
Medicine Creek at Kennebec, S. Dak.	465	1954-
Missouri River at Chamberlain, S. Dak.	<u>a</u> /250,800	1928-29; 1945-54; (1882*) <u>c</u> /; (1908-28*) <u>e</u> /.
<u>White River basin</u>		
White River near Crawford, Nebr.	163	1897.
White River at Crawford, Nebr.	313	1931-43; 1947- ; (1924-27) <u>y</u> /
White River below Whitney pipeline near Crawford (below Crawford), Nebr.	<u>a</u> /350	1931; (1924;1927-38) <u>y</u> /.
White River below Cottonwood Creek near Whitney, Nebr. .	676	1948-
White River near Chadron, Nebr.	750	1931-43.
White River near Oglala, S. Dak.	<u>a</u> /2,200	1943-
White River near Interior, S. Dak.	4,120	1904-6; 1911*; 1912-18; 1928-32; 1939-42.
White River near Kadoka, S. Dak.	<u>a</u> /5,000	1942-
South Fork White River near Martin, S. Dak.	<u>w</u> /310	1938-40.
Lake Creek above refuge near Tuthill, S. Dak.	<u>x</u> /58	1938-40.
Elm Creek near Tuthill, S. Dak.	<u>y</u> /10	1938-39; 1940†.
Lake Creek below refuge, near Tuthill, S. Dak.	<u>z</u> /120	1938-40.
South Fork White River near Rosebud, S. Dak.	<u>a</u> /1,020	1943-
South Fork White River at (near) White River, S. Dak. .	1,420	1929-32; 1938-40.
South Fork White River below White River, S. Dak. . . .	<u>a</u> /1,570	1949-
South Fork (Little White) White River near Westover, S. Dak.	1,640	1912*; 1913-15; 1916*; 1916-18.
White River at (near) Westover, S. Dak.	7,850	1912-18.
White River near Oacoma, S. Dak.	<u>a</u> /10,200	1928-
Fort Randall Reservoir at Pickstown, S. Dak.	<u>a</u> /263,500	1952- †
Missouri River below Fort Randall Dam, S. Dak.	<u>a</u> /263,500	1947-
<u>Ponca Creek basin</u>		
Ponca Creek at Anoka, Nebr.	<u>a</u> /410	1949-
<u>Niobrara River basin</u>		
Niobrara River at Nebraska-Wyoming State line.	-	1955-
Niobrara River above Box Butte Reservoir (near Marsland), Nebr.	-	1946- ; (1945-) <u>y</u> /
Box Butte Reservoir, Nebr.	-	1945- †
Niobrara River below Box Butte Reservoir (near Dunlap), Nebr.	-	1946- ; (1941-42; 1944-) <u>y</u> /.
Niobrara River at Dunlap, Nebr.	<u>a</u> /1,550	1931-42; (1923-38†) <u>as</u> /. (1924-29) <u>y</u> /.
Niobrara River near Hay Springs, Nebr.	-	1950-
Niobrara River near Colclester, Nebr.	-	1947-48; (1946-48) <u>y</u> /.
Niobrara River near Gordon, Nebr.	2,595	1928-32; 1945-
Antelope Creek near Gordon, Nebr.	-	1948.
Bear Creek near Eli, Nebr.	-	1948-53.
Niobrara River near Cody, Nebr.	-	1947-
Snake River near Burge, Nebr.	<u>ab</u> /620	1947-
Gordon Creek near Simeon, Nebr.	-	1948.
Niobrara River near (at) Valentine (at Fort Niobrara), Nebr.	<u>a</u> /6,160	1897*; 1899*; 1901-6; 1928-32.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.c/ In reports of Missouri River Commission.e/ In reports of U. S. Weather Bureau.y/ In reports of Nebraska Department of Roads and Irrigation.w/ Includes approximately 80 sq mi which are probably noncontributing.x/ Includes approximately 35 sq mi which are probably noncontributing.y/ Includes approximately 9 sq mi which are probably noncontributing.z/ Includes approximately 60 sq mi which are probably noncontributing.as/ In "Water Resources of Nebraska", Nebraska State Planning Board.ab/ Approximately, includes about 520 sq mi which are probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Missouri River--Continued.</u>		
<u>Niobrara River basin--Continued.</u>		
Minnechadusa Creek at Valentine, Nebr.	-	1947-
Niobrara River near Sparks, Nebr.	6,406	1945-
Niobrara River near Norden, Nebr.	-	1952-
Plum Creek near Meadville, Nebr.	-	1947-
Niobrara River near Meadville, Nebr.	-	1950-52.
Long Pine Creek near Riverview, Nebr.	a/390	1947-
Keyapaha River near Hidden Timber, S. Dak.	a/320	1948-53.
Keyapaha River at Wewela, S. Dak.	a/1,070	1937-40; 1947-
Niobrara River near Spencer (Lynch), Nebr.	a/10,400	1908*; 1913-14; 1915*; 1927-36; 1940-
Niobrara River near Verdel, Nebr.	a/10,900	1938-40; (1928)v/; (1928-29†)ac/.
Niobrara River at Niobrara, Nebr.	-	1902*; 1910-13*; 1954- (1911-12)v/.
<u>Bazille Creek basin</u>		
Bazille Creek near Niobrara, Nebr.	a/440	1952-
Gavins Point Reservoir near Yankton, S. Dak.	a/279,500	1955-†
Missouri River at Yankton, S. Dak.	a/279,500	1930-; (1873-86*; 1921-*)e/.
<u>James River basin</u>		
James River at New Rockford, N. Dak.	ad/596	1950-
James River near Pingree, N. Dak.	ae/1,580	1952-
Jamestown Reservoir near Jamestown, N. Dak.	af/1,670	1953-
Pipestem Creek near Buchanan, N. Dak.	ag/925	1950-
James River at Jamestown, N. Dak.	ah/2,840	1928-33; 1937-38; 1943-
James River at La Moure, N. Dak.	ai/5,740	1903*; 1950-; (1902-11*)e/.
James River at Columbia, S. Dak.	aj/7,050	1945-
Elm River at Westport, S. Dak.	a/1,680	1945-
James River near Stratford, S. Dak.	aj/9,990	1950-
Mud Creek near Stratford, S. Dak.	740	1955-
James River at Ashton, S. Dak.	aj/11,000	1945-
<u>Snake Creek:</u>		
West Branch Snake Creek near Athol, S. Dak.	a/1,430	1950-
Turtle Creek near Tulare, S. Dak.	1,120	1953-
Turtle Creek at Redfield, S. Dak.	a/1,540	1945-
James River near Redfield, S. Dak.	aj/14,800	1950-
Dry Run near Frankfort, S. Dak.	225	1955-
James River at Huron, S. Dak.	aj/16,800	1928-32; 1943-; (1902-23*)e/.
Sand Creek near Alpena, S. Dak.	a/240	1950-
James River near Forestburg, S. Dak.	aj/18,600	1950-
Firesteel Creek near Mount Vernon, S. Dak.	540	1955-
James River near Alexandria, S. Dak.	aj/20,200	1953-
James River near Scotland, S. Dak.	aj/21,550	1928-
<u>Vermillion River basin</u>		
Vermillion River near Wakonda, S. Dak.	a/1,680	1945-
<u>Big Sioux River basin</u>		
Big Sioux River at Watertown, S. Dak.	ak/1,810	1945-
Big Sioux River near Brookings, S. Dak.	al/4,410	1953-
Big Sioux River near Plandreau, S. Dak.	al/4,570	1928-32.
Big Sioux River near Dell Rapids, S. Dak.	al/5,030	1948-
Skunk Creek near Sioux Falls, S. Dak.	525	1948-
Big Sioux River at Sioux Falls, S. Dak.	al/5,720	1943-
<u>Split Rock Creek:</u>		
Split Rock Lake at Ihlen, Minn.	-	1938-48*.
Rock River at Luverne, Minn.	440	1911-14; 1943-44*††.
Rock River near Rock Valley, Iowa.	a/1,630	1948-
Dry Creek at Hawarden, Iowa.	a/48	1948-
Wiksen Creek near Alcester, S. Dak.	1.84	1954-
Scott Creek near Alcester, S. Dak.	1.77	1954-

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

a/ Approximately.

e/ In reports of U. S. Weather Bureau.

v/ In reports of Nebraska Department of Roads and Irrigation.

ac/ 73rd Cong., 1st sess., H. Doc. 90, Niobrara River.

ad/ Includes about 190 sq mi which are probably noncontributing.

ae/ Approximately, includes about 440 sq mi which are probably noncontributing.

af/ Approximately, includes about 460 sq mi which are probably noncontributing.

ag/ Includes about 450 sq mi which are probably noncontributing.

ah/ Approximately, includes about 950 sq mi which are probably noncontributing.

ai/ Approximately, includes about 2,800 sq mi which are probably noncontributing.

aj/ Approximately, includes more than 2,800 sq mi which are probably noncontributing.

ak/ Approximately, includes about 1,400 sq mi which are probably noncontributing.

al/ Approximately, includes about 1,980 sq mi which are probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Big Sioux River basin--Continued.		
Big Sioux River at Akron, Iowa.	a/8,980	1928-
Missouri River at Sioux City, Iowa.	a/314,600	1928-31; 1938- ; (1879-90†)d/; (1878- 99*)c/; (1888- *)e/; (1898-1949†)o/.

PART 6-B, MISSOURI RIVER BELOW SIOUX CITY, IOWA

Missouri River at Sioux City, Iowa.	a/314,600	See above
Perry Creek basin		
Perry Creek at 38th Street, at Sioux City, Iowa	a/60	1945-
Floyd River basin		
Floyd River at James, Iowa.	918	1934-
Omaha Creek basin		
Omaha Creek at Homer, Nebr.	a/170	1946-
Little Sioux River basin		
Little Sioux River near Lakefield, Minn.	17.1	1948-
Jackson County ditch No. 11 near Lakefield, Minn. . .	7.69	1948-
Okoboji Lake outlet:		
Spirit Lake near (at) Orleans, Iowa.	-	1933- *
Okoboji Lake at Lakeside Laboratory, near Milford (at Arnold's Park), Iowa.	-	1933- *
Ocheyedan River:		
Ocheda Lake near Worthington, Minn.	-	1941-47*.
Little Sioux River at Spencer, Iowa.	a/1,030	1936-42.
Little Sioux River at Correctionville, Iowa.	a/2,450	1918-25; 1928-32; 1936-
Little Sioux River near Kennebec, Iowa.	a/2,730	1939-
Maple River at Mapleton, Iowa	661	1941-
Maple River at Turin, Iowa.	725	1939-41.
Little Sioux River near Turin (Blencoe), Iowa	am/4,460	1939-
Monona-Harrison ditch:		
West Fork ditch at Holly Springs, Iowa.	395	1939-
Monona-Harrison ditch near Turin (Blencoe), Iowa. . .	am/4,460	1939-
Tekamah Creek basin		
Tekamah Creek at Tekamah, Nebr.	a/21	1949-
Soldier River basin		
Soldier River at Piagah, Iowa	417	1940-
New York Creek basin		
New York Creek at Herman, Nebr.	a/30	1946-
Boyer River basin		
Boyer River at Logan, Iowa.	810	1918-25; 1937-
Missouri River at Omaha, Nebr.	a/322,800	1928-; (1872-99*)c/; (1875- *)e/.
Indian Creek basin		
Indian Creek at Council Bluffs, Iowa.	7.99	1954-
Platte River basin		
Grizzly Creek (head of Platte River):		
Colorado Creek near Spicer, Colo.	25.2	1950-55.
(Big) Grizzly Creek near Walden (Hebron), Colo. . . .	252	1904-5; 1923; 1926-30; 1933-47; (1922-23†; 1930-33)an/; (1926-30†)ao/.
Little Grizzly Creek near Hebron, Colo.	a/96	1904-5; 1933-45; (1931-33)an/.
Roaring Fork near Walden (Hebron), Colo.	a/84	1904-5; 1923-30; 1933-47; (1930-33)an/; (1904-5†; 1923-30†)ao/.
North Platte River near Walden (Hebron), Colo. . . .	463	1904-5; 1923-30; 1933-47; (1930-33)an/; (1923-30†)ao/.
North Fork North Platte River at Higo, Colo.	-	1904-5.
North Fork North Platte River near Walden, Colo. . .	168	1923-28; 1937-45; (1923-28†)ao/.
North Platte River near Cowdrey, Colo.	-	1904-5.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

c/ In reports of Missouri River Commission.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

o/ In U. S. Geological Survey Circular 108.

al/ Approximately, includes about 1,980 sq mi which are probably noncontributing.

am/ Approximately, combined drainage area of Little Sioux River and Monona-Harrison ditch.

an/ In reports of State engineer of Colorado.

ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
Michigan River:		
South Fork Michigan River near Gould, Colo.	10.2	1950-55.
North Fork Michigan River near Gould, Colo.	19.5	1950-
Michigan River near Lindland, Colo.	a/62	1933-41; (1931-33)an/.
Michigan River at Haworth School, near Lindland, Colo..	114	1937-39.
Owl Creek near Lindland, Colo.	-	1937.
Michigan River at (near) Walden, Colo.	185	1904-5; 1923-30; 1933-47; (1930-33)an/; (1904-5+; 1923-30+)ao/; (1918+)ap/.
Illinois Creek near Rand, Colo.	a/71	1933-40; (1931-33)an/.
Willow Creek near Rand, Colo.	a/71	1933-40; (1931-33)an/.
Illinois Creek at Walden, Colo.	259	1923-30; 1933-47; (1917-18+)ap/; (1923-30+)ao/; (1930-33)an/.
Michigan River near Cowdrey, Colo.	480	1904-5; 1937-47.
Canadian River at Cowdrey, Colo.	174	1904-5; 1929-31; 1937-47; (1929-30+)ao/.
North Platte River near Northgate (Pinkhampton), Colo. .	a/1,440	1904; 1915-; (1904-6+; 1910-21+)ao/.
Douglas Creek above Keystone, Wyo.	-	1955-
Douglas Creek near Keystone, Wyo.	a/28	1912; 1914-16.
Douglas Creek near Foxpark, Wyo.	121	1946-
Mullen Creek:		
North Fork Mullen Creek (Mullen Creek) near French, Wyo.	-	1911*
Big Creek near Big Creek (Downington), Wyo.	123	1911-12*, 1913-14+; 1915-24; (1909+; 1913-15)m/; (1912-24+)ao/.
French Creek near French, Wyo.	a/60	1911-12; 1913-14+; 1915-24; (1909-11+; 1911-15)m/; (1911-24+)ao/.
Brush Creek near Saratoga, Wyo. (upper station)	77.5	1941-45.
Brush Creek near Saratoga, Wyo. (lower station)	a/98	1911-12; 1913-14+; 1915; (1909-11+; 1911-14)m/.
Encampment River above Encampment, Wyo.	205	1940-44.
Encampment River at Encampment (Peryam's ranch), Wyo. .	219	1900; 1911-12; 1912-14+; 1915-24; 1929-32; (1909-10+; 1913-14)m/; (1921-24+; 1928-29+)ao/.
Encampment River at mouth, near Encampment, Wyo. . . .	260	1940-
Cow Creek near Saratoga, Wyo.	a/60	1911-12; (1909-10+)m/.
Spring Creek:		
North Spring Creek near Saratoga, Wyo.	a/26	1913-15.
Spring Creek near Saratoga, Wyo.	152	1911-12.
North Platte River at Saratoga, Wyo.	a/2,880	1903-6; 1909; 1910-; (1906-9+; 1909-10+)aa/.
Jack Creek at Matheson ranch, near Saratoga, Wyo. . . .	a/32	1913-17; 1919-24; (1913-17+; 1918-24+)ao/.
Jack Creek at Blydenburg's ranch near Saratoga, Wyo. . .	-	1912-14+; (1913-14)m/.
Jack Creek at Burdick's ranch near Saratoga, Wyo. . . .	-	1911-12; (1909-10+)m/.
Pass Creek near Saratoga, Wyo.	119	1929-32.
Pass Creek near Walcott, Wyo.	278	1911; (1909-10+)m/.
North Platte River above Seminole Reservoir, near Sinclair (Parco), Wyo.		
Medicine Bow River near Elk Mountain, Wyo.	a/4,320	1939-
Medicine Bow River near Medicine Bow, Wyo.	65.6	1946-47.
Medicine Bow River near Medicine Bow, Wyo.	178	1911-12; 1913-14+; 1915-17; 1919-24; (1913-14)m/; (1911-17+; 1919-24+)ao/.
Medicine Bow River above Rock Creek, near		
Medicine Bow, Wyo.	-	1951-
Rock Creek:		
Deep Creek near Arlington, Wyo.	a/3.7	1914-18.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

m/ In reports of State engineer of Wyoming.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

an/ In reports of State engineer of Colorado.

ao/ 73d Cong., 2d Sess., H. Doc. 197, Platte River.

ap/ In "Water Resources of Colorado", Colorado Water Conservation Board.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
Medicine Bow River--Continued.		
Rock Creek--Continued.		
Rock Creek at (near) Arlington, Wyo.	a/70	1911-18; 1939- ; (1909-10+)m/.
Rock Creek near Rock River, Wyo.	184	1911-12; 1928-33; (1909-10+)m/.
Rock Creek below Rock River, Wyo.	216	1940-42; 1951-
Medicine Bow River at Medicine Bow, Wyo.	a/900	1901.
Little Medicine Bow River:		
Muddy Creek near Shirley, Wyo.	a/67	1915-17.
Medicine Bow River above Seminoe Reservoir, near Hanna, Wyo.	a/2,310	1939-
Seminoe Reservoir near Leo, Wyo.	a/7,340	1939-40; 1940-50+; 1950-; (1940-50)v/.
North Platte River above Pathfinder Reservoir, Wyo.	a/7,350	1913-25; 1929-39; 1950-; (1903-9+)aa/; (1909-15; 1925-29)v/.
Sage Creek above Pathfinder Reservoir, Wyo.	182	1915-25; (1915-25+)ao/.
Deweese Creek near Alcova, Wyo.	a/41	1915-24; (1916-24+)ao/.
Sand Creek near (above) Alcova, Wyo.	a/70	1915-24; (1915-24+)ao/.
Sweetwater River near Atlantic City, Wyo.	411	1946-51.
Sweetwater River at Devils Gate, near Splitrock, Wyo.	a/2,180	1902-3.
Sweetwater River near Alcova, Wyo.	a/2,270	1913-24; 1938- ; (1913-24+)ao/.
Horse Creek near Alcova, Wyo.	119	1915-24; (1915-24+)ao/.
Canyon Creek near Alcova, Wyo.	a/54	1915-24; (1915-24+)ao/.
Pathfinder Reservoir near Alcova, Wyo.	a/10,700	1938-40; 1940-50+; 1950-; (1909-13+; 1914-38; 1940-50)v/.
North Platte River below Pathfinder Reservoir (at Pathfinder), Wyo.	a/10,700	1905-40; 1949- ; (1905- 7)ao/; (1940-49)aq/.
Alcova Reservoir near Alcova, Wyo.	a/10,800	1938-50+; 1950- ; (1938-50)v/.
North Platte River at Alcova, Wyo.	a/10,800	1904-5; 1935-
Bates Creek near Freeland, Wyo.	129	1940; 1945-51.
Bates Creek near Alcova (Casper), Wyo.	377	1916-24; 1935-54; (1916-24+)ao/.
North Platte River near Goose Egg (Casper), Wyo.	a/11,500	1917-19; 1924; 1950-
Poison Spider Creek near Goose Egg, Wyo.	-	1950-
Casper Creek at Casper, Wyo.	662	1946-
North Platte River below (at) Casper, Wyo.	a/12,600	1929-
North Platte River at Parkerton, Wyo.	-	1919-24.
Deer Creek in canyon, near Glenrock, Wyo.	120	1946-51.
Deer Creek at Glenrock, Wyo.	216	1916-24; 1928-33; 1935- ; (1916-17; 1918- 24+; 1927-30+)ao/.
Running Dutchman Canal near Careyhurst, Wyo.	-	1935-50.
Box Elder Creek at Boxelder, Wyo.	63.2	1946-51
Box Elder Creek near Careyhurst, Wyo.	202	1911; 1916-24; 1928-33; 1935- ; (1915-24+; 1928-29+)ao/.
Douglas (Morton) Canal near Orpha, Wyo.	-	1935-45; 1945-47+; 1947-51.
La Prele Creek near Douglas, Wyo.	146	1919-
La Prele Creek near Orpha (Fetterman), Wyo.	227	1916; 1918; 1923-24; 1928-33; 1935- ; (1917-18+; 1922-24+; 1927-29+)ao/.
North Platte River near (at) Douglas, Wyo.	a/14,300	1891-93+; 1894; 1919- 23; 1929-39; 1946- ; 1916-24; 1929-32; 1937- ; (1916-24+)ao/.
Wagonhound Creek near La Bonte, Wyo.	125	
La Bonte Creek:		
West Fork La Bonte Creek near La Bonte, Wyo.	23.6	1946-51.

† Monthly figures of discharge or contents only.

a/ Approximately.

m/ In reports of State engineer of Wyoming.

v/ In reports of Nebraska Department of Roads and Irrigation.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

ap/ In "Water Resources of Colorado", Colorado Water Conservation Board.

aq/ In files of U. S. Geological Survey, Denver district office.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
La Bonte Creek--Continued.		
La Bonte Creek near La Bonte, Wyo.	302	1916-24; 1928-33; 1935- ; (1916-24†; 1928-29†)ao/.
North Platte River at Orin (Orin Junction), Wyo.	a/14,800	1895-99*; 1924.
North Platte River at McKinley, Wyo.	-	1917-18.
Horseshoe Creek near Esterbrook, Wyo.	a/45	1946-51.
Horseshoe Creek near Glendo, Wyo.	203	1916-19; 1921-24; 1928- 33; 1935- ; (1909- 10†)m/; (1915-19†; 1920-24†;1927-29†)ao/.
North Platte River near Cassa, Wyo.	a/15,700	1946-
Cottonwood Creek near Fletcher Park, Wyo.	48.1	1946-51.
Cottonwood Creek at (near) Wendover, Wyo.	159	1916-24; 1929-33; 1935- 42; 1946-55; (1909- 10†)m/; (1915-24†)ao/.
Guernsey Reservoir near Guernsey, Wyo.	a/16,200	1938-50†; 1950- ; (1928-50)v/.
North Platte River below Guernsey Reservoir, (at, near Guernsey, above Whalen), Wyo.	a/16,200	1900- ; (1902-8†)ao/.
Interstate Canal at Whalen, Wyo.	-	1910-16; (1909;1917-28; 1930-31; 1932-)v/.
North Platte River at recorder station below Whalen (near Fort Laramie, below Whalen), Wyo.	a/16,300	1887-89†; 1909- ; (1908-9)aa/.
Laramie River near Glendevy, Colo.	101	1904-5; 1910-30;1933- ; (1915-17†; 1919- 30†)ao/; (1930-33)an/.
McIntyre Creek at Gleneyre, Colo.	-	1904-5; (1913†)an/.
Laramie River near Jelm, Wyo.	297	1904†; 1905; 1911- ; (1910-11†; 1921- 28†)ao/.
Laramie River at (near) Woods Landing, Wyo.	375	1890-92; 1895*; 1896- 1900; 1911; (1911- 18†)ao/.
Laramie River and Pioneer Canal near Woods, Wyo.	418	1912; 1913-14†;1914-24; 1927; 1932- ; (1913- 14)m/; (1917-24†)ao/.
Laramie River at Laramie, Wyo.	-	1933-48; 1950-
Laramie River at Two Rivers, Wyo.	a/1,290	1911-27; 1933- ; (1913)m/; (1908-27†)ao/.
Little Laramie River near Filmore (Hatton), Wyo.	155	1902-3; 1911-12; 1913- 14; 1915-26; 1933- ; (1913-14)m/; (1921-26†)ao/.
Little Laramie River at Two Rivers (near Laramie), Wyo.	310	1903*; 1911-27; 1933- ; (1909-26†)ao/.
Laramie River near Lookout, Wyo.	a/2,100	1912-14†; 1915-17; 1932- ; (1913-14)m/; (1913-17†;1921-27†)ao/.
Wheatland Reservoir No. 2, Wyo.	a/2,200	1951-
Laramie River at McGill, Wyo.	-	1912-14†; 1915.
Laramie River below Wheatland Reservoir No. 2 (below McGill), Wyo.	a/2,230	1916-17; 1951-
Laramie River near Wheatland, Wyo.	a/2,480	1912; 1913-14†; 1915- 16; 1929-33; (1913-14)m/.
Sybilie Creek above Bluegrass Creek, near Wheatland, Wyo.	265	1941-
Sybilie Creek below Bluegrass Creek, near Wheatland, Wyo.	369	1950-
Wheatland Canal No. 1 near Wheatland, Wyo.	-	1952-
Wheatland Canal No. 2 near Wheatland, Wyo.	-	1952
Sybilie Creek near Mule Shoe Ranch, near Wheatland, Wyo.	542	1950-

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‡ Fragmentary record.

a/ Approximately.

d/ 73d Cong., 2nd sess., H. Doc. 238, Missouri River.

m/ In reports of State engineer of Wyoming.

v/ In reports of Nebraska Department of Roads and Irrigation.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

an/ In reports of State engineer of Colorado.

ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
Laramie River--Continued.		
Sybilie Creek--Continued.		
Sybilie Creek near Wheatland, Wyo.	568	1912†; 1914†; 1915-16; (1913-14†)ao/.
North Laramie River (at upper station) near Wheatland, Wyo.	366	1914-23; 1939- ; (1914-22†)ao/.
North Laramie River near Wheatland, Wyo.	370	1912; 1913-14†; (1913-14)m/.
North Laramie River at Uva, Wyo.	-	1911-12*.
Laramie River at Uva, Wyo.	3,179	1895-99; 1903.
Chugwater Creek at Chugwater, Wyo.	a/430	1911-12; 1913-14†; 1915- 21; 1938-40; (1913- 14)m/; (1913-14†)ao/.
Laramie River near Uva, Wyo.	-	1952-
Laramie River near (at) Fort Laramie, Wyo.	a/4,600	1915- ; (1914-26†)ao/.
Rawhide Creek near (east of) Lingle, Wyo.	a/510	1928- ; (1923-25)v/.
North Platte River at Vaughn, Wyo.	-	1924.
North Platte River at Torrington, Wyo.	a/21,700	1930-39; (1919†; 1924†; 1926-30†)ao/; (1928-30)v/.
Cherry Creek drain near Torrington, Wyo.	-	1935- ; (1926-29)v/.
Arnold drain near Torrington, Wyo.	-	1939-42; (1924-29)v/.
Katzer drain near Henry, Nebr.	-	1928- ; (1926-29)v/.
Mitchell Canal at Wyoming-Nebraska State line.	-	1938-41; (1916-19; 1921- 31; 1932-)v/; (1928-38†)m/.
North Platte River at Wyoming-Nebraska State line.	a/22,100	1890†; 1929- ; (1927-29†)aa/.
North Platte River at Henry, Nebr.	a/22,100	1912-16; (1912-19)v/.
Horse Creek near Meriden, Wyo.	-	1945-47.
Horse Creek near Little Horse Creek, Wyo.	-	1911-12*.
Horse Creek near La Grange, Wyo.	683	1911-12*; 1915-20; (1909-10†; 1913-14)m/; (1912-14†; 1915†; 1919†)ao/.
Horse Creek near Yoder, Wyo.	a/1,320	1928-33; 1938-41; (1941-44†)m/.
Horse Creek near Lyman, Nebr.	a/1,860	1931- ; (1921-)v/; (1920-38†)aa/.
Sheep Creek near Morrill, Nebr.	-	1931- ; (1919-)v/.
North Platte River at Morrill, Nebr.	a/24,100	(1917; 1919-23)v/.
Dry Spotted Tail Creek at Mitchell, Nebr.	-	1948- ; (1919-)v/.
North Platte River at Mitchell, Nebr.	a/24,300	1901-11; 1912-13*; 1930- ; (1901-13; 1916-18; 1920-)v/.
Tub Springs near Scottsbluff, Nebr.	-	1948- ; (1920-39; 1940-48†)v/.
North Platte River at Scottsbluff (near Gering), Nebr.	a/24,500	1897-1900; 1912; (1917-18)v/.
Winter Creek near Scottsbluff, Nebr.	-	1931- ; (1919-)v/.
Gering drain near Gering, Nebr.	-	1930-45; 1948- ; (1923-45)v/.
North Platte River near Minatare (at Melbeta), Nebr.	a/24,700	1930- ; (1916-19; 1922-)v/.
Ninemile drain near McGrew (Minatare), Nebr.	-	1932- ; (1930-)v/.
Bayard Sugar Factory drain near Bayard, Nebr.	-	1931-
Red Willow Creek near Bridgeport, Nebr.	a/83	1930-31; (1919-31)v/.
Red Willow Creek near Bayard, Nebr.	-	1932- ; (1931-)v/.
North Platte River at Bridgeport (near Camp Clark), Nebr.	a/25,300	1896-1900†; 1902-6†; 1915; 1930- ; (1915-)v/.
Pumpkin (Pumpkinseed) Creek near Bridgeport, Nebr.	a/1,080	1930- ; (1922-)v/; (1921-38†)aa/.
North Platte River at Broadwater, Nebr.	a/26,700	(1917-23)v/.

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‡ Fragmentary record.

a/ Approximately.

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v/ In reports of Nebraska Department of Roads and Irrigation.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
North Platte River at Lisco, Nebr.	a/26,900	1931- ; (1916-17)v/.
North Platte River at Oshkosh, Nebr.	a/27,500	1930- ; (1916-17*; 1928-)v/.
Blue Creek near Lewellen, Nebr.	267	1930- ; (1919-)v/.
North Platte River at Lewellen, Nebr.	a/28,500	1931; 1940- (1917-25)v/.
North Platte River at Belmar, Nebr.	a/29,100	1931; 1932-37; (1920- 1922-42)v/.
Otter Creek near Lemoyne, Nebr.	rr/13.9	(1926-27)v/; (1925-27*)ao/.
North Platte River at Lemoyne, Nebr.	a/29,500	1933-38.
North Platte River at Martin, Nebr.	a/30,000	
McConaughy Lake (Kingsley Reservoir) near Keystone, Nebr.	-	1941- †; (1941-)v/.
North Platte River near Keystone, Nebr.	a/30,000	1940- ; (1917; 1939-)v/.
North Platte River near Sutherland, Nebr.	a/31,300	1931; 1936- ; (1917; 1931-33; 1935-)v/.
Birdwood Creek near Sutherland, Nebr.	a/250	1913-15.
Birdwood Creek near Hershey, Nebr.	286	1931- ; (1920; 1922-)v/.
Lincoln County drain No. 1 (Lincoln County drain) at North Platte, Nebr.	-	(1921-38*)aa/.
North Platte River at North Platte, Nebr.	a/32,000	1931-32; 1955- ; (1924-)v/.
(Middle Fork) South Platte River at Alma, Colo.	23.7	1895-1915*; 1930- ; (1895-)v/.
(Middle Fork) South Platte River at Fairplay, Colo.	83	1916.
South Fork South Platte (Little South Platte) River at Twin Bridges (near Fairplay), Colo.	a/ pp/87	1910-12*; 1916; (1917)an/.
South Platte River above Elevenmile Canyon Reservoir, near Hartsel, Colo.	861	1916; (1917*; 1933-38*)ap/.
Elevenmile Canyon Reservoir near Lake George, Colo.	-	1939- ; (1933-38*)ap/.
(South Fork) South Platte River near (at) Lake George, Colo.	929	1938- †
Tarryall Creek: Boreas Pass ditch at Boreas Pass, Colo.	-	1910*; 1911-15; 1929- ; (1916-29)an/; (1910-28*)ao/.
Tarryall Creek above (near) Como, Colo.	a/ pp/37	1933- ; aa/.
Michigan Creek above (near) Jefferson, Colo.	a/ pp/19	1911-12*; (1934-38*)ap/.
Jefferson Creek above (at) Jefferson, Colo.	a/ pp/12	1910-13*; (1934-38*)ap/.
Tarryall Creek near Jefferson, Colo.	223	1910-12*; (1934-38*)ap/.
Rock Creek near Jefferson, Colo.	a/44	1910-11*; 1912-17.
Tarryall Creek near Lake George (Hayman), Colo.	460	1916.
South Platte River above Cheesman Lake (Lake Cheesman), Colo.	a/1,680	1910-12; 1933-55; (1925-33)an/.
Goose (Lost Park) Creek above (near) Cheesman Lake (Lake Cheesman), Colo.	a/86	1933-43; (1924-33)an/; (1908-33*)ap/.
Cheesman Lake (Lake Cheesman) Reservoir near Deckers, Colo.	-	1899*; 1933- ; (1924- 33)an/; (1908-38*)ap/.
South Platte River below (at) Cheesman Lake (Lake Cheesman), Colo.	1,766	1938- †
South Platte River above North Fork at South Platte, Colo.	a/2,160	1899-1900; 1901†; 1933- ; (1924-33)an/;
North Fork South Platte River at Grant, Colo.	a/51	(1899-1933*)ap/.
Geneva Creek above Jackwhacker Creek, near Grant, Colo.	-	1905-12; (1904-7*)ao/; (1913-38*)ap/.
Smelter Creek at Old Geneva Smelter, near Grant, Colo.	-	1910-18.
Geneva Creek at Old Geneva Smelter, near Grant, Colo.	-	1909-11*.
Duck Lake Creek near Grant, Colo.	a/8	1909-11*.
Scott Gomer Creek at Sullivan's Ranch, near Grant, Colo.	a/21	1909-11*.

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‡ Fragmentary record.

a/ Approximately.

v/ In reports of Nebraska Department of Roads and Irrigation.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

an/ In reports of State engineer of Colorado.

ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

ap/ In "Water Resources of Colorado", Colorado Water Conservation Board.

ar/ Includes about 8.5 sq mi which are probably noncontributing.

as/ Prior to October 1947 published in WSP 1313, (for Part 9)

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
South Platte River--Continued.		
North Fork South Platte River--Continued.		
Geneva Creek at Grant (Sullivan's Ranch, near Grant), Colo.	a/74	1908-18.
North Fork South Platte River below Geneva Creek at Grant (Cassells), Colo.	127	1908-13; 1942-
North Fork South Platte River at Pine, Colo.	374	1942-46.
North Fork South Platte River at South Platte, Colo.	484	1909-10; 1913-
South Platte River at South Platte (near Deansbury, Platte Canyon), Colo.	a/2,550	1887-90; 1891-92†; 1895-97; 1899-1900; 1902- ; (1887-92)an/; (1887-92†; 1898- 1907†; 1912†)ao/.
South Platte River at Waterton, Colo.	a/2,620	1933- ; (1926-33)an/; (1925-30†)ao/.
Deer Creek near Littleton, Colo.	21.8	1942-46.
Plum Creek near Sedalia, Colo.	273	1942-47.
Plum Creek near Louviers, Colo.	319	1947-
South Platte River at Littleton, Colo.	a/3,090	1941-
Bear Creek at (near) Morrison, (at Idledale, Starbuck), Colo.	165	1888-90; 1891†; 1895- 1901; 1902*; 1933- ; (1888-91; 1919-33)an/; (1887-91†; 1895- 1901†)ao/.
Turkey Creek near Morrison, Colo.	49.4	1942-53.
Bear Creek at mouth, at Sheridan (Sheridan Junction), Colo.	265	1933- ; (1914; 1927-33)an/.
Cherry Creek near Franktown, Colo.	172	1939-
Cherry Creek near Melvin, Colo.	369	1939-
Cherry Creek below Cherry Creek Reservoir, Colo.	386	1950-
Cherry Creek at Denver, Colo.	a/420	1942-
South Platte River at Denver, Colo.	a/3,840	1889-90; 1895-1906; 1909-13; 1933- ; (1906-8†; 1913-33)an/; (1895-1930†)ao/.
Clear Creek:		
West Fork Clear Creek:		
Jones Pass tunnel at east portal near Jones Pass, Colo.	-	1940- †
Hoop Creek:		
Berthoud Pass ditch at Berthoud Pass, Colo.	-	1910-31**; 1931- † aa/.
West Fork Clear Creek above Empire, Colo.	39.9	1942-46.
West Fork Clear Creek near Empire, Colo.	a/57	1929-31.
Clear Creek near Lawson, Colo.	144	1946-
Fall River near Idaho Springs, Colo.	23.6	1933-38; (1930-33)an/.
Clear Creek at Idaho Springs, Colo.	239	1910*; 1911-12; (1910-12†)ap/.
Clear Creek below Idaho Springs, Colo.	264	1951-55.
North Clear Creek near Blackhawk, Colo.	55.8	1951-55.
Clear Creek at Forks Creek (above Golden), Colo.	345	1887-88; 1899-1912.
Clear Creek near Golden, Colo.	392*	1908-9; 1911-29; 1933- ; (1929-33)an/; (1913†; 1926-27†)ap/.
Clear Creek at mouth, near Derby, Colo.	600	1933- ; (1914; 1927-33)an/.
South Platte River at Henderson, Colo.	a/4,740	1933- ; (1926-33)an/.
South Platte River at Fort Lupton, Colo.	a/5,070	1933- ; (1908†; 1929-33)an/.
North St. Vrain Creek near Allens Park, Colo.	a/33	1925-30.
North St. Vrain Creek at Longmont Dam, near Lyons, Colo.	109	1933-53; (1925-33)an/; (1912-13†; 1914-17†; 1922-23†)ap/.
South St. Vrain Creek near Ward, Colo.	14.3	1926-27; 1929-31; 1954-
Middle St. Vrain Creek near Allens Park, Colo.	a/28	1926-30.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

an/ In reports of State engineer of Colorado.

ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

ap/ In "Water Resources of Colorado", Colorado Water Conservation Branch.

aa/ Prior to October 1947, published in WSP 1313, (for Part 9).

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
South Platte River--Continued.		
North St. Vrain Creek--Continued.		
Supply ditch at Lyons, Colo.	-	1899*; 1902*; 1903.
St. Vrain Creek at (near) Lyons, Colo.	226	1887-90; 1891-92†; 1895-1903; 1909-13; 1933- ; (1891; 1904-8†; 1914-33)an/; (1887-91†; 1895-1930†)ao/.
Lefthand Creek near Boulder, Colo.	a/48	1929-31; 1947-53.
Lefthand Creek at mouth, at (near) Longmont, Colo.	a/74	1933-41; 1953-55; (1927-33)an/.
Middle Boulder Creek at Nederland, Colo.	35.5	1934-40; 1945- ; (1907-28)at/; (1928-33)an/; (1908-10†; 1917-33)ap/.
North Boulder Creek at Silver Lake, Colo.	a/8.7	1913-28; (1929†)ao/.
North Boulder Creek near Nederland, Colo.	a/25	1929-31.
Boulder Creek near (at) Orodell (North Boulder Creek above Boulder), Colo.	105	1887-88; 1907-13; 1933- ; (1914; 1916-33)an/; (1907-14†; 1916-30†)ao/.
Fourmile Creek at Orodell (at mouth, near Orodell), Colo.	24.7	1947-53; (1887†)ap/.
Boulder Creek near Boulder (North Boulder Creek above Boulder), Colo.	-	1888-90; 1891-92†; 1895-1901; 1907-8; (1891-92; 1904-6†)an/.
South Boulder Creek:		
Moffat water tunnel at East Portal, Colo.	-	1936- † au/
South Boulder Creek near Rollinsville, Colo.	43.1	1910-18; 1945-49; (1911-18†)ao/.
South Boulder Creek near (at) Eldorado Springs (Marshall), Colo.	114	1888-90; 1891-92†; 1895-1901; 1909-13; 1933- ; (1891-92; 1914-33)an/; (1904-30†)ao/.
Community Canal near Marshall, Colo.	-	1909; (1926-38†)ap/.
Boulder Creek at mouth, near Longmont, Colo.	512	1933-49; 1951-55; (1927-33)an/.
St. Vrain Creek at mouth, near Platteville, Colo.	a/1,000	1933- ; (1904-6†; 1915; 1927-33)an/.
Big Thompson River:		
Spruce Canyon:		
Eureka ditch near Flattop Mountain, Colo.	-	1940- † as/
Glacier Creek near Estes Park, Colo.	25.2	1946-
Fall River at Estes Park, Colo.	40.8	1947-53.
Big Thompson River (Thompson River) at Estes Park, Colo.	137	1946-
Alva B. Adams tunnel at East Portal, near Estes Park, Colo.	-	1947-
Marys Lake near Estes Park, Colo.	-	1950-
Fish Creek near Estes Park, Colo.	16.9	1947-55.
Lake Estes near Estes Park, Colo.	151	1950-
Big Thompson River (Thompson River) near Estes Park, Colo.	151	1933- ; (1930-33)an/.
North Fork Big Thompson River (Thompson River) at Drake, Colo.	85.1	1947-55.
Big Thompson River (Creek, Thompson River) below power house, near Drake, Colo.	277	1917-26; 1928-55.
Horsetooth Reservoir Canal below Big Thompson siphon, near Drake, Colo.	-	1950-55.
Horsetooth Reservoir near Fort Collins, Colo.	-	1951-
Big Thompson River (Thompson River) at mouth of canyon, near Drake, Colo.	302	1926-30; 1938-49; 1951- ; (1930-33)an/.
Big Thompson River (Creek) near Arkins, Colo.	305	1887-90; 1891-92†; 1895-1903; 1909-11; (1891-92)an/; (1895-1911†)ao/.

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ap/ In "Water Resources of Colorado", Colorado Water Conservation Board.

as/ Prior to October 1947, published in WSP 1313, (for Part 9).

at/ In files of State engineer of Colorado.

au/ Prior to May 1945, published only in Part 9.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
South Platte River--Continued.		
Big Thompson River--Continued.		
Handy ditch near Arkins, Colo.	-	1899*; 1903.
Buckhorn Creek near Masonville, Colo.	a/140	1947-55.
Chimney Hollow Dry Creek near Pinewood, Colo.	a/7.4	1950-52.
Cottonwood Creek:		
Rattlesnake Creek near Pinewood, Colo.	a/3.3	1950-52.
Cottonwood Creek near Pinewood, Colo.	15.1	1947-53
Big Thompson River near Loveland, Colo.	515	1947-55
Little Thompson River near Berthoud, Colo.	a/100	1929-30; 1947-
Dry Creek:		
Carter Lake near Berthoud, Colo.	-	1954- †
Dry Creek below Carter Lake, Colo.	a/1.5	1949-52.
Little Thompson River at Milliken, Colo.	192	1951-55.
Big Thompson River (Thompson River) at mouth, near La Salle, Colo.	818	1933- ; (1914; 1927-33)an/.
Cache la Poudre River:		
Long Draw:		
Grand River ditch at La Poudre Pass, Colo.	-	1896-1903†; 1903-9**; 1909- † as/.
Joe Wright Creek:		
Cameron Pass ditch at Cameron Pass, Colo.	-	1948- †
Michigan ditch at Cameron Pass, Colo.	-	1948- †
Skyline ditch at Chambers Lake, Colo.	-	1948- †
Cache la Poudre River above Chambers Lake outlet, Colo.	a/91	1929-31.
Laramie-Poudre tunnel near Chambers Lake, Colo.	-	1948- †
Cache la Poudre River near Log Cabin (Elkhorn), Colo.	235	1909-11; 1929-31.
Roaring Creek:		
Bob Creek ditch near Nunn Creek basin, Colo.	-	1949- †
South Fork Cache la Poudre River near Eggers, Colo.	a/69	1929-31.
Cache la Poudre River below Elkhorn Creek, Colo.	407	1946-
Cache la Poudre River near Fort Collins, Colo.	495	1909-11.
North Fork Cache la Poudre River:		
Columbine ditch near Deadman Hill, Colo.	-	1949- †
Sheep Creek:		
Wilson Supply ditch near Eaton Reservoir, Colo.	-	1948- †
North Fork Cache la Poudre River at Livermore, Colo.	541	1929-31.
North Fork Cache la Poudre River near Livermore Colo.	566	1947-
Cache la Poudre River at mouth of canyon, near Fort Collins, Colo.	1,048	1884-1901; 1910-13; 1933- ; (1902-3; 1914- 33)an/; (1881†)ap/; (1884-1903†)ao/.
Cache la Poudre River near Greeley, Colo.	a/1,840	1903; 1933- ; (1904†)ap/; (1914-19; 1924-33)an/.
Lonetree Creek near Granite Canyon, Wyo.	a/23	1933-48.
Lonetree Creek near Nunn, Colo.	a/190	1951-
South Platte River near Kersey, Colo.	a/9,500	1901-3; 1905-12; 1913*; 1933- ; (1914-33)an/; (1905-30†)ao/.
Middle Fork Crow Creek near Hecla, Wyo.	a/23	1902-3; 1933-45; 1948-
South (Fork) Crow Creek near Hecla, Wyo.	a/16	1933-44; 1947-
North Fork Crow Creek near Hecla, Wyo.	a/27	1933-44.
Crow Creek near Cheyenne, Wyo.	308	1922-24; 1951-
Crow Creek near Barnesville, Colo.	a/1,280	1951-
South Platte River at Sublette, Colo.	a/12,900	1933-41; 1943-55; (1926-33)an/.
Kiowa Creek at Elbert, Colo.	-	1955-
South Platte River near Weldona, Colo.	a/13,200	1952-
Bijou Creek near Wiggins, Colo.	a/1,420	1950-
South Platte River at Orchard, Colo.	-	1895-1900; (1903-6†)an/.
South Platte River at Fort Morgan, Colo.	a/14,800	1943-
South Platte River at Balzac (Union), Colo.	a/17,700	1933- ; (1906-8*; 1917-33)an/; (1916-30†)ao/.
South Platte River near Crook, Colo.	a/19,500	1953-

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ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

ap/ In "Water Resources of Colorado", Colorado Water Conservation Board.

as/ Prior to October 1947, published in WSP 1313, (for Part 9).

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
South Platte River--Continued.		
Lodgepole Creek near Federal, Wyo.	a/25	1933-38.
South Fork Lodgepole Creek near Federal, Wyo.	a/16	1933-38.
Lodgepole Creek at Bushnell, Nebr.	-	1931-32.
Lodgepole Creek at (near) Bushnell (above Oliver Reservoir), Nebr.	a/1,090	1932- ; (1925-)v/
Lodgepole Creek at (near, south of) Sidney, Nebr.	a/2,190	1931-32; (1924-31)v/.
Lodgepole Creek at Ralton, Nebr. (Colorado-Nebraska State Line, interstate station).	a/2,800	1931; 1951- ; (1925-31)v/.
South Platte River at Julesburg (Ovid), Colo.	a/22,800	1902-6; 1908-12; 1913*; 1914; 1930- ; (1914- 24; 1925-30)an/; (1923- 26)v/; (1901-38+)aa/.
South Platte River at Big Springs, Nebr.	a/23,200	1902* ; 1903.
South Platte River at Paxton (Ogallala), Nebr.	a/23,700	1931-33; 1939- ; (1923; 1937-)v/.
South Platte River at North Platte, Nebr.	a/24,300	1897; 1914-15; 1931- ; (1915-)v/.
Platte River at Brady, Nebr.	a/56,900	1939- ; (1937-)v/.
Platte River near Cozad, Nebr.	a/57,200	1940- ; (1932; 1936-)v/.
Platte River near Lexington, Nebr.	a/58,000	1902-6 (1917-24)v/.
Plum Creek near Smithfield, Nebr.	266	1946-53.
Platte River near Overton (Elm Creek), Nebr.	a/58,400	1914* ; 1915; 1930- ; (1915-23; 1925-)v/; (1914-38+)aa/.
Buffalo Creek near Darr, Nebr.	a/63	1946-
Buffalo Creek near Overton, Nebr.	a/175	1949-
Elm Creek near Overton, Nebr.	a/31	1946-
Platte River near Odessa, Nebr.	a/58,800	1938- ; (1937-)v/.
Platte River near Grand Island, Nebr.	a/59,500	1933-
Wood River near Riverdale, Nebr.	379	1946-
Wood River near Gibbon, Nebr.	572	1949-
Wood River near Alda, Nebr.	-	1953-
Platte River at Central City, Nebr.	a/60,800	(1922-23; 1925-27)v/ (1924-27*)e/.
Prairie Creek:		
Dry Creek at Cairo, Nebr.	-	1949-53.
Prairie Creek near Silver Creek, Nebr.	406	1949-53.
Platte River near Duncan (Columbus), Nebr.	a/61,600	1895-1915; 1928-
Middle Loup River near Mullen, Nebr.	a/1,120	1946-48†.
Middle Loup River near Seneca, Nebr.	av/1,140	1948-53.
Middle Loup River at Dunning, Nebr.	aw/1,760	1945-
Dismal River (at Dunning damsite) near Gem, Nebr.	a/1,360	1946-53†.
Dismal River at Dunning, Nebr.	ax/1,780	1932; 1945-
Middle Loup River near Milburn, Nebr.	-	1951-
Middle Loup River at Walworth, Nebr.	ay/4,340	1940-41; 1943- ; (1940-)v/
Middle Loup River at Sargent, Nebr.	ay/4,490	1936-38; 1952-
Middle Loup River near Comstock, Nebr.	ay/4,650	1936-37.
Middle Loup River at Arcadia, Nebr.	ay/4,730	1937-
Middle Loup River at Loup City, Nebr.	-	1936-38; 1949-
Middle Loup River at Rockville, Nebr.	-	1955-
Boelus power canal near Boelus, Nebr.	-	1952- ; (1933-42; 1952-)v/
Middle Loup River at Boelus, Nebr.	-	1952- ; (1941-42; 1952-)v/
Middle Loup River at Boelus, Nebr. (combined with Boelus power canal)	-	1936-38.
South Loup River near Cumro, Nebr.	az/1,340	1946-
South Loup River at Ravenna, Nebr.	ba/1,680	1940-
Mud Creek near Broken Bow, Nebr.	-	1949-53.

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† Monthly figures of discharge or contents only.

a/ Approximately

e/ In reports of U. S. Weather Bureau.

v/ In reports of Nebraska Department of Roads and Irrigation.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

an/ In reports of State engineer of Colorado.

av/ Approximately, includes about 1,080 sq mi which are probably noncontributing.

aw/ Approximately, includes about 1,680 sq mi which are probably noncontributing.

ax/ Approximately, includes about 1,730 sq mi which are probably noncontributing.

ay/ Approximately, includes more than 3,800 sq mi which are probably noncontributing.

az/ Approximately, includes about 640 sq mi which are probably noncontributing.

ba/ Approximately, includes about 770 sq mi which are probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
Middle Loup River--Continued.		
South Loup River--Continued.		
Mud Creek near Sweetwater, Nebr.	678	1946-
South Loup River at St. Michael, Nebr.	<u>bb</u> /2,560	1943-
Oak Creek near Dannebrog, Nebr.	122	1949-
Middle Loup River at St. Paul, Nebr.	<u>bc</u> /7,720	1895-97; 1899; 1903; 1928-;(1894-1915†) <u>aa</u> /
North Loup River at Brewster, Nebr.	<u>bd</u> /1,890	1945-51.
North Loup River at Taylor, Nebr.	<u>be</u> /2,210	1936-
North Loup River at Burwell, Nebr.	<u>bf</u> /2,510	1952-
Calamus River near Harrop, Nebr.	<u>bg</u> /983	1931-32.
Calamus River near Burwell, Nebr.	<u>bh</u> /1,260	1940-
North Loup River near Burwell, Nebr.	-	1936-38.
North Loup River at (near) Ord, Nebr.	-	1936-38; 1952-
North Loup River at Scotia, Nebr.	<u>bi</u> /4,100	1936-
Davis Creek near Cotesfield, Nebr.	-	1949-
North Loup River near Cotesfield, Nebr.	-	1950-
North Loup River near St. Paul, Nebr.	<u>bi</u> /4,460	1895-97; 1899; 1903; 1928-;(1894-1915†) <u>aa</u> /
Loup River:		
Spring Creek at Cushing, Nebr.	-	1949-53.
Cedar River near Spalding, Nebr.	<u>bj</u> /794	1945-53.
Cedar River near Fullerton, Nebr.	<u>bj</u> /1,220	1931-32; 1940-
Loup River power canal near Genoa, Nebr.	-	1936-
Loup River near Genoa, Nebr.	<u>bk</u> /14,440	1928-32; 1943- †††
Beaver Creek at Loretto, Nebr.	<u>bl</u> /311	1944-53.
Beaver Creek at Genoa, Nebr.	<u>bl</u> /627	1940-
Loup River at Columbus, Nebr.	<u>bm</u> /15,230	1894*; 1895-1906; 1907- 11*; 1912-15; 1931; 1933-36; 1936- †††; (1895-1915†) <u>ao</u> /
Shell Creek at Newman Grove, Nebr.	122	1949-
Shell Creek near Columbus, Nebr.	<u>a</u> /270	1947-
Platte River at North Bend, Nebr.	-	1949-
Platte River near Fremont (Leshara), Nebr.	<u>a</u> /77,100	1911-15.
Elkhorn River at O'Neill, Nebr.	<u>a</u> /651	1931-32.
Elkhorn River at Ewing, Nebr.	-	1947-
South Fork Elkhorn River at Ewing, Nebr.	-	1947-53.
Elkhorn River at Neligh, Nebr.	<u>bn</u> /2,200	1931-
Elkhorn River at Norfolk, Nebr.	<u>bn</u> /2,790	1896-1903; 1945-; (1941-) <u>e</u> /
Logan Creek near Uehling, Nebr.	<u>a</u> /1,030	1941-
Maple Creek near Nickerson, Nebr.	-	1951-
Elkhorn River at Waterloo (Arlington), Nebr.	<u>bn</u> /6,900	1899-1903*; 1911-15*; 1928-
Platte River near Ashland, Nebr.	<u>a</u> /83,800	1928-53.
Salt Creek:		
Salt Creek subwatershed No. 3 near Sprague, Nebr.	5.54	1954-
Salt Creek subwatershed No. 12 at Roca, Nebr.	2.15	1954-
Salt Creek subwatershed No. 34 near Roca, Nebr.	9.09	1954-
Salt Creek at Roca, Nebr.	174	1951-
Salt Creek at Lincoln, Nebr.	-	1949-

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

††† Records for this period do not include flow of Loup River power canal.

a/ Approximately.

e/ In reports of U. S. Weather Bureau.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

ao/ 73d Cong., 2d sess., H. Doc. 197, Platte River.

bb/ Approximately, includes about 910 sq mi which are probably noncontributing.

bc/ Approximately, includes about 4,800 sq mi which are probably noncontributing.

bd/ Approximately, includes about 1,750 sq mi which are probably noncontributing.

be/ Approximately, includes about 2,030 sq mi which are probably noncontributing.

bf/ Approximately, includes about 2,110 sq mi which are probably noncontributing.

bg/ Approximately, most of area is noncontributing.

bh/ Approximately, includes about 1,150 sq mi which are probably noncontributing.

bi/ Approximately, includes about 3,190 sq mi which are probably noncontributing.

bj/ Approximately, includes about 740 sq mi which are probably noncontributing.

bk/ Approximately, includes about 8,440 sq mi which are probably noncontributing.

bl/ Includes about 215 sq mi which are probably noncontributing.

bm/ Approximately, includes about 8,700 sq mi which are probably noncontributing.

bn/ Approximately, includes about 400 sq mi which are probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Platte River basin--Continued.		
Salt Creek--Continued.		
Wahoo Creek at Ithaca, Nebr.	272	1949-
Silver Creek at Ithaca, Nebr.	a/72	1949-
Salt Creek near Ashland, Nebr.	a/1,640	1947-
Platte River at Louisville (near South Bend), Nebr.	-	1903*; 1953-
<u>Waubonsie Creek basin</u>		
Waubonsie Creek near Bartlett, Iowa.	a/30	1946-
<u>Weeping Water Creek basin</u>		
Weeping Water Creek at Union, Nebr.	238	1950-
Missouri River at Nebraska City, Nebr.	a/414,400	1929- (1878-99*)c/.
<u>Nishnabotna River basin</u>		
West Nishnabotna River near White Cloud, Iowa.	a/920	1918-24.
Silver Creek:		
Mule Creek near Malvern, Iowa.	10.6	1954-
West Nishnabotna River at Randolph, Iowa.	a/1,310	1949-
East Nishnabotna River:		
Davids Creek near Hamlin, Iowa.	26.1	1952-
East Nishnabotna River at Red Oak, Iowa.	a/890	1918-25; 1936-
Nishnabotna River above (near) Hamburg, Iowa.	a/2,800	1922-23; 1928-
<u>Little Nemaha River basin</u>		
Little Nemaha River near Syracuse, Nebr.	218	1951-
Brownell Creek:		
Brownell Creek subwatershed No. 1, Gage No. 1, near Syracuse, Nebr.	1.70	1954-
Little Nemaha River at Auburn, Nebr.	664	1949-
<u>Tarkio River basin</u>		
Tarkio River (East Tarkio Creek) at Blanchard, Iowa.	200	1934-40.
West Tarkio Creek near Westboro, Mo.	105	1934-40.
Tarkio River at Fairfax, Mo.	508	1922-
Missouri River at Rulo, Nebr.	418,905	1949- ; (1886-99*)c/.
<u>Nemaha River basin</u>		
Nemaha River:		
Turkey Creek near Seneca, Kans.	276	1949-
North Fork Nemaha River at Humboldt, Nebr.	531	1952-
Nemaha River at Falls City, Nebr.	a/1,340	1944-
Muddy Creek at Verdon, Nebr.	188	1952-
<u>Mill Creek basin</u>		
Mill Creek at Oregon, Mo.	4.90	1950-
<u>Nodaway River basin</u>		
Nodaway River:		
West Nodaway River at Villisca, Iowa.	a/360	1918-25.
Nodaway River at Clarinda, Iowa.	a/740	1918-25; 1936-
Nodaway River near Burlington Junction, Mo.	a/1,240	1922- ; (1921-31†)d/.
Missouri River at St. Joseph, Mo.	a/424,300	1928- ; (1872- *)e/.
Missouri River at Leavenworth, Kans.	a/425,000	1922-29; (1873-99*)c/.
<u>Platte River basin (Iowa-Missouri)</u>		
Platte River at Conception Junction, Mo.	492	1921-23; 1924-25*; 1928-32.
One Hundred and Two River near (at) Maryville, Mo.	a/500	1932-
White Cloud Creek near Maryville, Mo.	6.06	1948-
Platte River near (at) Agency, Mo.	a/1,760	1924-30; 1932-
Castile Creek:		
Jenkins Branch at Gower, Mo.	2.72	1950-
<u>Kansas River basin</u>		
Arikaree River (head of Kansas River) at Haigler, Nebr.	-	1932- ; (1925-)v/; (1923-38†)aa/.
North Fork Republican River near Wray, Colo.	-	1937-46; 1951-
Pioneer Canal at Colorado-Nebraska State line.	-	1950-51.
North Fork Republican (North Fork Arikaree) River at Colorado-Nebraska State line.	-	1931- ; (1915; 1926-)v/.
Republican River (continuation of Arikaree River):		
Buffalo Creek near Haigler, Nebr.	bo/180	1940- ; (1922; 1924-31)v/.
Rock Creek at (near) Parks, Nebr.	bp/180	1940- ; (1925-33)v/.

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a/ Approximately.

c/ In reports of Missouri River Commission.

d/ 73d Cong., 2d sess., H. Doc. 238, Missouri River.

e/ In reports of U. S. Weather Bureau.

v/ In reports of Nebraska Department of Roads and Irrigation.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

bo/ Approximately, includes about 159 sq mi which are probably noncontributing.

bp/ Approximately, includes about 166 sq mi which are probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Kansas River basin--Continued.		
(North Fork) Republican River at (near) Benkelman, Nebr..	<u>bq</u> /4,770	1894-95; 1903-6; 1946- ; (1924-29; 1930-31) <u>v</u> ; (1894-95†; 1902-6†; 1923-30†) <u>br</u> /.
South Fork Republican River near Idalia, Colo..	<u>a</u> /1,300	1950-
Landman Creek near Hale, Colo..	<u>a</u> /450	1950-
Bonny Reservoir near Hale, Colo..	-	1950-
South Fork Republican River near Hale, Colo..	-	1946-48; 1951-
South Fork Republican River near Colorado-Kansas State line..	<u>a</u> /1,860	1946-
South Fork Republican (Republican River) River near (at) Benkelman, Nebr..	-	1894-95*; 1903-6; 1931- 32; 1937- ; (1902-6†; 1923-33†) <u>aa</u> /; (1924- 29; 1930-33) <u>v</u> /.
Republican River at (near) Max, Nebr..	<u>bq</u> /7,580	1928-45.
Republican River at Stratton, Nebr..	<u>bq</u> /7,940	1950-
Swanson Lake, Nebr..	-	1953-
Republican River at Trenton, Nebr..	<u>bq</u> /8,120	1946-
Republican River at (near) Culbertson, Nebr..	<u>bq</u> /8,200	1913-15*; 1931-50; (1922; 1924-50) <u>v</u> /; (1921-29†) <u>aa</u> /.
Frenchman Creek near (above) Champion, Nebr..	-	1932-40.
Frenchman Creek below (near) Champion, Nebr..	<u>bs</u> /940	1935-
Frenchman Creek near (south of) Imperial (near Harvey Dam site), Nebr..	<u>bt</u> /1,220	1940- ; (1924-30) <u>v</u> /.
Enders Reservoir, Nebr..	<u>bu</u> /1,300	1950-
Frenchman Creek near Enders, Nebr..	<u>bu</u> /1,300	1946-
Frenchman Creek near Wauneta, Nebr..	-	1895*; 1896; (1924-30) <u>v</u> /.
Frenchman Creek near Hamlet, Nebr..	<u>bv</u> /1,480	1929- ; (1928-30†) <u>br</u> /.
Frenchman Creek at Palisade, Nebr..	<u>bv</u> /1,500	1894-96; 1950- ; (1925; 1927-30) <u>v</u> /.
Stinking Water Creek near Wauneta, Nebr..	<u>bw</u> /1,260	1940-50.
Stinking Water Creek near Palisade, Nebr..	<u>bx</u> /1,390	1949-
Frenchman Creek (River) at Culbertson, Nebr..	<u>by</u> /3,080	1913-15*; 1931- ; (1922-) <u>v</u> /; (1921-36†) <u>aa</u> /.
Blackwood Creek near Culbertson, Nebr..	<u>a</u> /290	1946-
Driftwood Creek near McCook, Nebr..	<u>a</u> /360	1946-
Republican River at (near) McCook, Nebr..	<u>bq</u> /12,560	1931-32; 1954- ; (1924-31) <u>v</u> /.
Red Willow Creek near McCook, Nebr..	-	1940-47.
Red Willow Creek near Red Willow, Nebr..	<u>bz</u> /710	1939- ; (1925-31) <u>v</u> /.
Dry Creek:		
Dry Creek subwatershed No. 2 near Bartley, Nebr..	6.68	1955-
Medicine Creek at Maywood, Nebr..	<u>ca</u> /207	1951-
Brushy Creek near Maywood, Nebr..	<u>cb</u> /130	1951-
Fox Creek at Curtis, Nebr..	<u>a</u> /77	1951-
Dry Creek near Curtis, Nebr..	<u>a</u> /20	1951-
Medicine Creek above Harry Strunk Lake (Medicine Creek Reservoir), Nebr..	-	1950-
Mitchell Creek above Harry Strunk Lake (Medicine Creek Reservoir), Nebr..	<u>a</u> /53	1950-
Harry Strunk Lake, Nebr..	-	1949-
Medicine Creek below Harry Strunk Lake (Medicine Creek Dam), Nebr..	-	1950-
Medicine Creek at (near) Cambridge, Nebr..	<u>cc</u> /1,070	1936- ; (1925-31) <u>v</u> /; (1922-31†) <u>aa</u> /.

* Gage heights, or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

v/ In reports of Nebraska Department of Roads and Irrigation.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

bq/ Approximately, of which a large area does not contribute directly to surface runoff.
73d Cong., 2d sess., H. Doc. 195, Kansas River.

bs/ Approximately, includes about 370 sq mi which are probably noncontributing.

bt/ Approximately, includes about 460 sq mi which are probably noncontributing.

bu/ Approximately, includes about 480 sq mi which are probably noncontributing.

bv/ Approximately, includes about 520 sq mi which are probably noncontributing.

bw/ Approximately, includes about 520 sq mi which are probably noncontributing.

bx/ Approximately, includes about 960 sq mi which are probably noncontributing.

by/ Approximately, includes about 1,520 sq mi which are probably noncontributing.

bz/ Approximately, includes about 310 sq mi which are probably noncontributing.

ca/ Includes about 125 sq mi which are probably noncontributing.

cb/ Includes about 58 sq mi which are probably noncontributing.

cc/ Approximately, includes about 390 sq mi which are probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Kansas River basin--Continued.		
Republican River at Cambridge, Nebr.	bq/14,300	1945-
Muddy Creek at Arapahoe, Nebr.	243	1950-
Republican River near Orleans, Nebr.	bq/15,400	1947-
Sappa Creek near Oberlin, Kans.	a/1,050	1929-32; 1944-
Sappa Creek near Beaver City, Nebr.	a/1,500	1937-
Beaver Creek at Ludell, Kans.	a/1,460	1929-32; 1945-53.
Beaver Creek at Cedar Bluffs, Kans.	a/1,710	1946-
Beaver Creek near Beaver City, Nebr.	a/2,060	1937-
Sappa Creek near Stamford, Nebr.	cd/3,840	1945-
Prairie Dog Creek at Norton, Kans.	721	1944-
Prairie Dog Creek near Woodruff, Kans.	a/1,050	1929-32; 1945- ; (1928-30†)br/.
Harlan County Reservoir, Nebr.	-	1952-
Republican River below Harlan County Dam, Nebr.	bq/20,760	1952-
Turkey Creek at Naponee, Nebr.	160	1948-53.
Republican River near Bloomington, Nebr.	bq/20,800	1929- ; (1928-38†)aa/.
Center Creek at Franklin, Nebr.	111	1948-
Thompson Creek at Riverton, Nebr.	295	1948-
Elm Creek at Amboy, Nebr.	a/54	1948-53.
Republican River near Guide Rock, Nebr.	bq/22,060	1950-
Courtland Canal at Nebraska-Kansas State line.	-	1954-
Republican River near Hardy (at Bostwick), Nebr.	bq/22,400	1904-15†; 1931-
White Rock Creek at Lovewell, Kans.	a/358	1946-
Republican River at Scandia, Kans.	bq/22,930	1919-25; 1928-44; 1950-
Buffalo Creek:		
West Buffalo Creek near Jewell, Kans.	15.2	1934-38.
West Buffalo Creek at Jewell, Kans.	16.8	1934-38.
Republican River at Concordia, Kans.	bq/23,540	1946- ; (1931-*)e/.
Republican River at Clay Center (Wakefield), Kans.	bq/24,570	1917- ; (1904-*)e/.
Republican River at Milford, Kans.	bq/24,900	1950-
Republican River at Junction City (Junction), Kans.	bq/24,960	1895-1905.
Smoky Hill River:		
Rose Creek near Wallace, Kans.	28.5	1946-53.
North Fork Smoky Hill River near McAllaster, Kans.	a/670	1946-53.
Beaver (Ladder) Creek near Scott City, Kans.	a/1,067	1904-5*.
Ladder Creek below Chalk Creek, near Scott City, Kans.	a/1,460	1951-
Smoky Hill River at Elkader, Kans.	3,555	1939-
Hackberry Creek near Gove, Kans.	426	1946-53.
Smoky Hill River near Arnold (Ransom), Kans.	a/5,220	1950-
Cedar Bluff Reservoir near Ellis, Kans.	a/5,300	1950-54†; 1954-
Smoky Hill River at Cedar Bluff Dam, Kans.	a/5,300	1952-
Smoky Hill River near Ellis, Kans.	a/5,630	1941-52.
Smoky Hill River at Pfeifer, Kans.	a/6,070	1929-32.
Big Creek near Hays, Kans.	594	1946-
Smoky Hill River near Russell, Kans.	6,965	1939-
Smoky Hill River at Ellsworth, Kans.	a/7,580	1895-1905; 1918-25; 1928-
Kanopolis Reservoir near Kanopolis, Kans.	7,857	1948-54†; 1954-
Smoky Hill River near Langley, Kans.	7,857	1940-
Smoky Hill River at Lindsborg, Kans.	8,110	1930- ; (1905-23†)ce/.
Smoky Hill River near Mentor (Salina), Kans.	8,230	1923-32; 1947-
Saline River near Russell, Kans.	1,502	1945-
Paradise Creek near Paradise, Kans.	212	1946-53.
Saline River near Wilson, Kans.	a/1,900	1929-
Wolf Creek near Sylvan Grove, Kans.	261	1945-53.
Saline River near Beverly, Kans.	2,730	1895-97.
Saline River at Tescott, Kans.	2,820	1919-
Saline River near Salina, Kans.	3,311	1897-1903.
Smoky Hill River near New Cambria, Kans.	a/11,980	1948-53†.
North Fork Solomon River at Glade, Kans.	849	1952-
Bow Creek near Stockton, Kans.	337	1950-
North Fork Solomon River at Kirwin, Kans.	a/1,290	1919-25; 1928-32; 1941-
North Fork Solomon River near Downs, Kans.	a/2,390	1945-

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† Monthly figures of discharge or contents only. ---

‡ Fragmentary record.

a/ Approximately.

e/ In reports of U. S. Weather Bureau.

aa/ In "Water Resources of Nebraska", Nebraska State Planning Board.

bq/ Approximately, of which a large area does not contribute directly to surface runoff.

br/ 73d Cong., 2d sess., H. Doc. 195, Kansas River.

cd/ Approximately, includes about 280 sq mi which are probably noncontributing.

ce/ In reports of Kansas State Board of Agriculture.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Kansas River basin--Continued.		
Smoky Hill River--Continued.		
North Fork Solomon River--Continued.		
South Fork Solomon River above Webster Reservoir (at Webster), Kans.	a/1,036	1945-
South Fork Solomon River at Alton, Kans.	a/1,720	1919-25; 1926-32; 1942-
South Fork Solomon River at Osborne, Kans.	2,024	1946-
Solomon River:		
Limestone Creek:		
East Limestone Creek near Ionia, Kans.	27.3	1934-38.
Elm Creek near Ionia, Kans.	22.7	1934-38.
East Limestone Creek at Ionia, Kans.	51.6	1934-35.
Solomon River at Beloit, Kans.	a/5,430	1895-97; 1929- (1905-29*)e/.
Solomon River at Niles (near Bennington), Kans.	a/6,770	1897-1903; 1917-
Smoky Hill River at (near) Solomon (near Abilene), Kans.	a/18,830	1904*; 1918-21, 1922- 34; (1904-18)ce/; (1904-34*)e/.
Smoky Hill River at Enterprise, Kans.	a/19,200	1934-
Chapman Creek near Chapman, Kans.	300	1953-
Lyon Creek near Woodbine, Kans.	230	1953-
Smoky Hill River at Junction City, Kans.	a/19,900	1951-
Kansas River at Ogden, Kans.	cf/45,240	1917-51.
Big Blue River:		
Lincoln Creek near Seward, Nebr.	-	1953-
Big Blue River at Seward, Nebr.	-	1954-
Big Blue River near Crete, Nebr.	a/2,680	1945-
Big Blue River at Beatrice, Nebr.	a/3,360	1910-15; (1905-*)e/.
Big Blue River at Barneston, Nebr.	a/4,420	1932-
Big Blue River at Hull, Kans.	a/4,540	1919-25; 1928-40.
Little Blue River near Dewese (at Blue Bluff), Nebr.	-	1912*; 1953-
Little Blue River at Angus, Nebr.	-	1950-53.
Little Blue River near Endicott (Fairbury), Nebr.	a/2,340	1908-15; 1929-
Little Blue River at Waterville, Kans.	a/3,440	1922-25; 1928-
Black Vermillion Creek:		
Snipe Creek near Beattie, Kans.	18.0	1954-
Black Vermillion Creek near Frankfort, Kans.	412	1953-
Big Blue River at Randolph, Kans.	a/9,100	1918-
Fancy Creek at Winkler, Kans.	176	1953-
Big Blue River <u>cg</u> / near Manhattan, Kans.	a/9,560	1895-1905, 1951, 1954-; (1888-93*; 1904-14*)e/.
Kansas River at Wamego, Kans.	cf/55,240	1919- ; (1914- *)e/.
(Red) Vermillion Creek near Wamego, Kans.	243	1936-46; 1954-
Mill Creek near Paxico, Kans.	316	1953-
Kansas River at Topeka, Kans.	cf/56,710	1904*; 1917- ; (1904- *)e/.
Soldier Creek near (at) Topeka, Kans.	268	1929-
Delaware River:		
Little Delaware River near Horton, Kans.	19.3	1954-
Delaware River at Valley Falls, Kans.	922	1922-
Kansas River at Lecompton, Kans.	cf/58,420	1896*; 1899-1905; 1906*; 1936-
Wakarusa River near Lawrence, Kans.	458	1929-
Stranger Creek near Tonganoxie, Kans.	406	1929-
Kansas River at Bonner Springs, Kans.	cf/59,890	1917-
Missouri River at Kansas City, Mo.	a/489,200	1897-1928†; 1928- ; (1879-90†)c/; (1873- *)e/.
Blue River basin		
Blue River near Kansas City, Mo.	188	1939-
Little Blue River basin		
Little Blue River near Lake City, Mo.	184	1948-
Fishing River basin		
Fishing River:		
East Fork Fishing River at Excelsior Springs, Mo.	20.0	1951-
Crooked River basin		
Crooked River near Richmond, Mo.	159	1948-

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a/ Approximately.

c/ In reports of Missouri River Commission.

e/ In reports of U. S. Weather Bureau.

ce/ In reports of Kansas State Board of Agriculture.

cf/ Approximately, includes about 5,700 sq mi which are probably noncontributing.

cg/ Published as Kansas River near (at) Manhattan 1904-12 by U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Missouri River at Waverly, Mo.	a/491,200	1929- ; (1878-79*;1883-99*) <u>c/</u> ; (1915- *) <u>e/</u> .
<u>Wakenda Creek basin</u>		
Wakenda Creek at Carrollton, Mo.	248	1948-
<u>Grand River basin</u>		
Grand River:		
East Fork Grand River:		
Thompson Branch near Albany, Mo.	5.58	1955-
East Fork Big Creek near Bethany, Mo.	a/95	1934-
Grand River near Gallatin, Mo.	a/2,250	1921-
Thompson (Grand) River at Davis City, Iowa.	702	1918-25; 1941-
Weldon River near Mercer, Mo.	246	1939-
Weldon River at Mill Grove, Mo.	494	1929-
Thompson River at Trenton (near Hickory), Mo.	a/1,670	1921-23; 1928- ; (1910-14*; 1925- *) <u>e/</u> .
Medicine Creek near Galt, Mo.	225	1921-
Medicine Creek near Sturgis, Mo.	368	1929-33.
Locust Creek near Milan, Mo.	225	1921-33.
Locust Creek near Linneus, Mo.	a/550	1929-
Grand River near Sumner, Mo.	a/5,880	1924-
Yellow Creek:		
East Yellow Creek:		
Winnegan Creek:		
Hamilton Branch near New Boston, Mo.	2.51	1955-
Yellow Creek near Rothville, Mo.	405	1929-32; 1948-51.
Chariton River basin		
Chariton River:		
Honey Creek near Russell, Iowa.	13.8	1952-
Chariton River near Centerville, Iowa.	727	1938-
Chariton River at Novinger, Mo.	a/1,370	1931-52; 1954-
Chariton River at Elmer, Mo.	a/1,660	1921-30.
Chariton River near Prairie Hill (Keytesville), Mo.	a/1,870	1929-
Mussel Fork near Musselfork, Mo.	267	1948-51.
Missouri River at Glasgow, Mo.	502,875	1949-53; (1878-99*) <u>c/</u> ; (1903-14*) <u>e/</u> .
<u>Lamine River basin</u>		
Lamine River at Clifton City, Mo.	598	1922-
South Fork Blackwater River:		
East Branch South Fork Blackwater River near Elm, Mo.	16.4	1954-
Blackwater River at Blue Lick, Mo.	a/1,120	1922-33; 1938-
Salt Fork:		
Camp Creek:		
Shiloh Branch near Marshall, Mo.	2.87	1952-
Missouri River at Boonville, Mo.	a/505,700	1925- ; (1873- *) <u>e/</u> .
<u>Moniteau Creek basin</u>		
Moniteau Creek near Fayette, Mo.	a/81	1948-
<u>Petite Saline Creek basin</u>		
Petite Saline Creek near Boonville, Mo.	182	1948-
<u>Moreau River basin</u>		
Moreau River near Jefferson City, Mo.	531	1947-
<u>Osage River basin</u>		
Marais des Cygnes (Osage) River at Melvern, Kans.	363	1939-
Salt Creek near Lyndon, Kans.	111	1939-
Hundred and Ten Mile Creek:		
Dragoon Creek:		
Switzler Creek at Burlingame, Kans.	26.3	1954-
Hundred and Ten Mile (Dragoon) Creek near Quenemo, Kans.	321	1939-
Marais des Cygnes (Osage) River near Quenemo, Kans.	1,030	1922-38.
Marais des Cygnes (Osage) River near (at) Ottawa, Kans.	a/1,260	1902-5; 1918- ; (1911-14) <u>ce/</u> .
Pottawatomie Creek near Garnett, Kans.	334	1939-
Pottawatomie Creek at Lane, Kans.	513	1929-32.
Big Bull Creek near Hillsdale, Kans.	147	1948-
Big Bull Creek at Paola, Kans.	223	1929-32.
Marais des Cygnes (Osage) River at Trading Post, Kans.	a/2,910	1921-23; 1928-
Big Sugar Creek at Farlinville, Kans.	198	1929-32; 1948-
Little Osage River at Fulton, Kans.	295	1948-
Marmaton River near Fort Scott, Kans.	411	1921-25; 1929-
Little Osage River at Stotesbury, Mo.	427	1929-32.

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a/ Approximately.

c/ In reports of Missouri River Commission.

e/ In reports of U. S. Weather Bureau.

ce/ In reports of Kansas State Board of Agriculture.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Missouri River--Continued.		
Osage River basin--Continued.		
Sac River:		
Little Sac River near Springfield, Mo.	a/40	1927-31.
Sac River near Stockton, Mo.	a/1,160	1921-
Cedar Creek near Pleasant View, Mo.	420	1923-26; 1948-
Sac River near Collins, Mo.	a/1,900	1923-25.
Osage River at Osceola, Mo.	a/8,220	1921-28; 1930- ; (1910-33*; 1938- *)e/.
Pomme de Terre River near Bolivar, Mo.	225	1950-
Pomme de Terre River at Hermitage, Mo.	655	1921-
South Grand River near Brownington, Mo.	a/1,660	1921-
Osage River at Warsaw, Mo.	a/11,500	1925-31; (1917- *)e/.
West Fork Niangua River:		
Niangua Branch at Marshfield, Mo.	0.82	1950-
Niangua River:		
Spring Branch:		
Bennett Spring at Bennett Springs (Brice), Mo.	-	1928-39; (1916-20)ch/.
Niangua River near Decaturville, Mo.	627	1930-
Hahatonka Spring at Hahatonka, Mo.	-	1922-26.
Niangua River near Roach, Mo.	698	1922-30.
Lake of the Ozarks near Bagnell, Mo.	a/14,000	1938- †; (1931-39†)ch/; (1932- *)e/.
Osage River near Bagnell, Mo.	a/14,000	1925- ; (1880-1925†)ch/; (1880-1931*)c/ e/.
Osage River near St. Thomas, Mo.	a/14,500	1931-
Maries River at Westphalia, Mo.	257	1947-
Missouri River near Bonnota Mill (at Isbell), Mo.	a/523,400	1928-36; (1894-99*)c/; (1936-39*)ch/.
Gasconade River basin		
Gasconade River near Hazlegreen, Mo.	a/1,250	1929- ; (1928-30†)ci/.
Gasconade River near Waynesville, Mo.	a/1,680	1921- ; (1914-21†)ch/.
Big Piney River:		
Brushy Creek:		
Coyle Branch at Houston, Mo.	1.10	1949-55.
Big Piney River (Piney Creek) near Houston, Mo.	-	1908-9*.
Big Piney River (Piney Creek) near Big Piney, Mo.	a/560	1921-
Big Piney River (Piney Creek) near Hooker, Mo.	-	1903.
Little Piney Creek:		
Beaver Creek near Rolla, Mo.	14.0	1948-55.
Little Beaver Creek near Rolla, Mo.	6.41	1947-
Little Piney Creek at Newburg, Mo.	a/200	1928-
Little Piney Creek near Arlington, Mo.	-	1903.
Mill Creek:		
Wilkins Spring near Newburg, Mo.	-	1953-
Gasconade River at Jerome (Arlington), Mo.	a/2,840	1903-6; 1923- ; (1915-30†)ci/; (1885- 1926*; 1938- *)e/.
Gasconade River near Rich Fountain, Mo.	a/3,180	1921- ; (1915-30†)ci/.
Missouri River at Hermann, Mo.	a/528,200	1897-1928†, 1928- ; (1873- *)e/.
Loutre River basin		
Loutre River:		
Clear Fork:		
Rumbo Branch at Danville, Mo.	1.40	1953-
Loutre River at Mineola, Mo.	202	1947-
Missouri River at Ruegg (Bellefontaine Bridge), Mo.	a/529,300	1933-35; (1892-99*)c/.

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a/ Approximately.

c/ In reports of Missouri River Commission.

e/ In reports of U. S. Weather Bureau.

ch/ In reports of Missouri Geological Survey and Water Resources

ci/ 72d Cong., 1st sess., H. Doc. 192, Gasconade River.

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South Loup River, Nebr.	30, 31	Val Marie West Reservoir, Sask.	7
South Piney Creek, Wyo.	14	Vermillion Creek, Kans.	35
South Platte River, Colo.	26, 27, 29, 30	Vermillion River, S. Dak.	20
South Platte River, Nebr.	30		
South Platte River, Middle Fork, Colo.	26	Wagonhound Creek, Wyo.	23
South Platte River, North Fork, Colo.	26, 27	Wahoo Creek, Nebr.	32
South Platte River, South Fork, Colo.	26	Wakarusa River, Kans.	35
South St. Vrain Creek, Colo.	27	Wakenda Creek, Mo.	36
South Side ditch, S. Dak.	18	Warm Springs Creek, Mont.	4
South Willow Creek, Mont.	6	Warm Spring Creek, Wyo.	10
Spearfish Creek, S. Dak.	18	Waubonsie Creek, Iowa.	32
Spirit Lake, Iowa.	21	Weeping Water Creek, Nebr.	32
Split Rock Lake, Minn.	20	Weldon River, Mo.	36
Spring Creek, Mont. (tributary to North Fork Musselshell River).	6	West Buffalo Creek, Kans.	34
Spring Creek, Mont. (tributary to Teton River).	5	West Careless Creek, Mont.	6
Spring Creek, Nebr. (tributary to Loup River).	31	West Fork ditch, Iowa	21
Spring Creek, N. Dak.	14	West Fork ditch, Mont.	7
Spring Creek, S. Dak.	17, 18	West Fork Reservoir, Wyo.	11
Spring Creek, Wyo.	22	West Goose Creek, Wyo.	13
Squaw Creek, S. Dak.	17	West Nisabotna River, Iowa	32
Stillwater River, Mont.	9	West Nodaway River, Iowa.	32
Stinking Water Creek, Nebr.	33	West Tarkio Creek, Mo.	32
Stranger Creek, Kans.	35	Wheatland Canals Nos. 1 and 2, Wyo.	24
Sun River, Mont.	5	Wheatland Reservoir No. 2, Wyo.	24
Sun River, North Fork, Mont.	4	White Cloud Creek, Mo.	32
Sun River, North Fork of North Fork, Mont.	4	White Earth River, N. Dak.	14
Sun River, South Fork, Mont.	5	White River, Nebr. - S. Dak.	19
Sun River, South Fork of North Fork, Mont.	4	White River, South Fork, S. Dak.	19
Sun River Canal, Mont.	5	White Rock Creek, Kans.	34
Sunlight Creek, Wyo.	9	Whitetail Creek, Mont.	2
Supply ditch, Colo.	28	Whitewater Creek, Mont.	7
Swanson Lake, Nebr.	33	Wiksen Creek, S. Dak.	20
Sweetbriar Creek, N. Dak.	15	Wilkins Spring, Mo.	37
Sweetgrass Creek, Mont.	9	Willow Creek, Colo.	22
Sweetwater River, Wyo.	23	Willow Creek, Mont. (tributary to Deep Creek and Teton River).	5
		Willow Creek, Mont. (tributary to Jefferson River).	3
		Willow Creek, Mont. (tributary to Marias River).	5
		Willow Creek, Mont. (tributary to Milk River).	8

	<u>Page</u>		<u>Page</u>
Willow Creek, Mont. (tributary to Red Lodge Creek)	9	Wolf Creek, Mont. (tributary to Judith River)	6
Willow Creek, Mont. (tributary to Shields River)	9	Wolf Creek, Mont. (tributary to Missouri River)	8
Willow Creek, Mont. (tributary to Sun River)	4	Wolf Creek, Wyo.	13
Willow Creek, Wyo. (tributary to Goose Creek)	13	Wolf Creek ditch, Mont.	8
Willow Creek, Wyo. (tributary to Wind River)	10	Wood River, Nebr.	30
Willow Creek Reservoir, Mont.	4	Wood River, Wyo.	12
Wilson Supply ditch, Colo.	29	Woodbine Creek, Mont.	9
Wind River, Wyo.	10,11	Woodpile Coulee, Mont.	7
Wind River, East Fork, Wyo.	10	Wyoming Canal, Wyo.	10
Wind River, North Fork, Wyo.	10	Yellow Creek, Mo.	36
Winter Creek, Nebr.	25	Yellowstone Lake (Yellowstone National Park)	8
Wolf Creek, Kans.	34	Yellowstone River, Mont.	9,10, 13,14
Wolf Creek, Mont. (tributary to Big Muddy Creek)	8	Yellowstone River, (Yellowstone National Park)	8

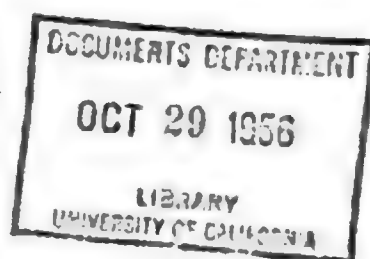
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GEOLOGICAL SURVEY CIRCULAR 387



INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955

PART 7.—LOWER MISSISSIPPI RIVER BASIN



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 387

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 7.—LOWER MISSISSIPPI RIVER BASIN

By J. S. Gatewood

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 7.—LOWER MISSISSIPPI RIVER BASIN

By J. S. Gatewood

EXPLANATION

This index lists the streamflow and reservoir stations in the Lower Mississippi River basin for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indentation and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indentation in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 17 to 20.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River at St. Louis, Mo.....	a/701,000	1861-1933†; 1933-
<u>Meramec River basin</u>		
Meramec River:		
Meramec Spring near St. James (Meramec), Mo.....		1903-6; 1921-29.
Meramec River near Meramec, Mo.....	340	1903-6.
Dry Fork:		
Little Dry Fork:		
Green Acre Branch near Rolla, Mo.....	0.622	1947-
Behmke Branch near Rolla, Mo.....	1.05	1948-
Dry Fork near St. James, Mo.....	370	1903*; 1943-45†.
Meramec River near Steelville, Mo.....	781	1922- ; (1916-33*)b/
Huzzah Creek at Dillard, Mo.....	a/92	1943-45†.
Courtois Creek at Berryman, Mo.....	173	1943-45†.
Meramec River near Sullivan, Mo.....	1,475	1921-33; 1943-
Bourbeuse River near St. James, Mo.....	21.3	1947-
Lanes Fork near Rolla, Mo.....	0.225	1952-
Bourbeuse River near Spring Bluff, Mo.....	608	1943- *.
Bourbeuse River at Union, Mo.....	808	1921-
Meramec River at Robertsville, Mo.....	2,673	1939-51.
Big River:		
Terre Bleue Creek:		
Dry Branch near Bonne Terre, Mo.....	3.65	1955-
Big River near DeSoto, Mo.....	718	1948-
Big River at Byrnesville, Mo.....	917	1921-
Meramec River near Eureka, Mo.....	3,788	1903-6; 1921-
Meramec River (Station No.1) at Fenton, Mo.....	-	1903*
Meramec River (Station No. 2) below Fenton, Mo.....	-	1903*
Mississippi River at Chester, Ill.....	a/712,600	1927- ; (1873- *)c/; (1891- *)b/.
<u>Headwater diversion channel basin</u>		
Castor River (head of headwater diversion channel) at Zalma, Mo.....	423	1921-
Whitewater River at Whitewater, Mo.....	326	1921-36 *.
Mississippi River at Thebes, Ill. (at Cape Girardeau, Mo).....	a/717,200	1932- (1873;1879*)c/; (1891-94; 1904- *)b/
<u>Mayfield Creek basin</u>		
Mayfield Creek:		
Perry Creek near Mayfield, Ky.....	1.72	1952-
Mayfield Creek at Lovelaceville, Ky.....	211	1938-
<u>Obion Creek basin</u>		
Obion Creek at Pryorsburg, Ky.....	36.3	1951-
<u>Bayou du Chien basin</u>		
Bayou du Chien near Clinton, Ky.....	68.5	1939-
<u>Obion River basin</u>		
South Fork Obion River near Greenfield, Tenn.....	431	1929-
Rutherford Fork Obion River near Bradford, Tenn.....	203	1929-
North Fork Obion River near Union City, Tenn.....	a/490	1929-
Obion River at Obion, Tenn.....	a/1,880	1929-
Reelfoot Creek near Samburg, Tenn.....	a/110	1950-
Reelfoot Lake Outlet at Spillway, near Tiptonville, Tenn..	-	1940- * ††
South Fork Forked Deer River at Jackson, Tenn.....	574	1929-
South Fork Forked Deer River at Chestnut Bluff, Tenn.....	a/1,100	1929-
North Fork Forked Deer River at Trenton, Tenn.....	71.3	1950-
Middle Fork Forked Deer River near Alamo, Tenn.....	a/410	1929-
<u>Hatchie River basin</u>		
Hatchie River at Bolivar, Tenn.....	a/1,430	1929-
Hatchie River near Stanton, Tenn.....	a/1,940	1929-
<u>Wolf River basin</u>		
Wolf River at Rossville, Tenn.....	531	1929-
Grays Creek:		
Fisherville Lake (on Marys Creek) near Fisherville, Tenn.	-	1954-
Marys Creek at Pisgah Road, near Fisherville, Tenn.....	13.6	1954-
Mississippi River at Memphis, Tenn.....	a/932,800	1933- ; (1871- *)c/
<u>St. Francis River basin</u>		
St. Francis River near Bismarck, Mo.....	21.5	1939.
Wolf Creek near Farmington, Mo.....	40.3	1939.
Doe Run Creek near Knob Lick, Mo.....	25.0	1939.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Unpublished.

a/ Approximately.

b/ In reports of U. S. Weather Bureau.

c/ In reports of Mississippi River Commission or files of Corps of Engineers.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
St. Francis River basin--continued		
St. Francis River near Roselle, Mo.....	239	1939.
Stouts Creek at Arcadia, Mo.....	20.8	1939.
Little St. Francis River at Fredericktown, Mo.....	90.5	1939.
Barnes Creek near Fredericktown, Mo.....	4.03	1955-
Twelvemile Creek at Zion, Mo.....	16.1	1939.
Cedar Creek at Coldwater, Mo.....	14.4	1939.
Big Creek at Des Arc, Mo.....	99.6	1939.
St. Francis River near Patterson, Mo.....	956	1920-
Clark Creek at Patterson, Mo.....	37.5	1939.
Otter Creek at Taskee, Mo.....	47.0	1939.
Wappapello Reservoir at Wappapello, Mo.....	a/1,310	1941- *
St. Francis River at Wappapello, Mo.....	1,311	1940- ;(1920- *)c/
St. Francis River at Fisk, Mo.....	1,370	1927-41;(1922- *)b/
Right Hand Chute of Little River:		
Little River ditch 81 at Kirk, Mo.....	-	1921-26.
Little River ditch 81 near Kennett, Mo.....	111	1926-
Little River ditch 1 at Kirk, Mo.....	-	1921-26.
Little River ditch 1 near Kennett, Mo.....	235	1926-
Little River ditch 251 near Lilbourn, Mo.....	235	1945-
Little River ditch 1 (not the same as Little River ditch "at Kirk" and "near Kennett"):		
Castor River at Aquilla, Mo.....	175	1945-
Little River ditch 1 near Morehouse, Mo.....	450	1945-
Little River ditch 251 near Kennett, Mo.....	d/883	1927-
Little River ditch 66 at Kirk, Mo.....	-	1921-26.
Little River ditch 66 near Kennett, Mo.....	e/	1926-
Little River ditch 66-A near Kennett, Mo.....	e/	1927-
Little River ditch 259 near Kennett, Mo.....	89.0	1926-
Big Lake Outlet near Manilla, Ark.....	a/2,020	1927-33.
St. Francis River floodway near Marked Tree, Ark.....	-	1927-31; 1934-
St. Francis River at Marked Tree, Ark.....	-	1934- ;(1904- *)b/
White River basin		
White River:		
West Fork White River at Greenland, Ark.....	83	1945-
West Fork White River near Fayetteville, Ark.....	118	1937-45.
War Eagle Creek near Hindsville, Ark.....	262	1952-
White River near Rogers, Ark.....	1,020	1952-
White River at Beaver, Ark.....	1,238	1909-10; 1921-
Kings River near Berryville, Ark.....	532	1939-
James River near Battlefield, Mo.....	303	1926-29.
James River below Battlefield, Mo.....	328	1929-32.
Wilson Creek near Springfield, Mo.....	19.0	1932-39.
James River at Galena, Mo.....	987	1921-
White River near Reeds Spring, Mo.....	3,617	1938-52.
White River near Branson, Mo.....	4,022	1909-10*; 1951-
White River at Forsyth, Mo.....	4,544	1926*; 1929-53.
Bull Shoals Reservoir near Flippin, Ark.....	6,036	1951-
White River near Flippin, Ark.....	6,067	1928-
White River at Cotter, Ark.....	6,115	1909-10*.
Buffalo River near St. Joe, Ark.....	825	1939-
Buffalo River near Gilbert, Ark.....	840	1909-10*;(1924- *)b/.
Buffalo River near Rush, Ark.....	1,091	1928-
North Fork River near Tecumseh, Mo.....	561	1944-
Bryant Creek near Tecumseh, Mo.....	570	1944-
North Fork River (North Fork of White River) at Tecumseh, Mo.	1,157	1921-45.
North Fork River (North Fork of White River) near Henderson, Ark.....	1,612	1909-10*; 1928-43.
Norfork Reservoir near Norfork, Ark.....	1,806	1943-44†; 1944-
North Fork River at Norfork Dam, near Norfork, Ark.....	1,806	1944-
White River at Calico Rock, Ark.....	9,955	1939- ;(1904- *)b/

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

b/ In reports of U. S. Weather Bureau.

c/ In reports of Mississippi River Commission or files of Corps of Engineers.

d/ Includes drainage area of Little River ditches 66 and 66-A.

e/ Drainage area included in Little River ditch 251.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
White River basin--continued		
White River at Batesville, Ark.....	11,062	1937- ; (1904- *) <u>b/</u>
Black River near Annapolis, Mo.....	484	1939-
Clearwater Reservoir near Piedmont, Mo.....	898	1948- *
Black River at Leeper, Mo.....	957	1921-
Black River at Poplar Bluff, Mo.....	1,245	1936-37; 1939-
Cane Creek at Harviell, Mo.....	189	1939-42.
Black River near Corning, Ark.....	1,749	1938- ; (1924-29*) <u>b/</u>
Current River:		
Big Creek near Yukon, Mo.....	8.36	1949-
Round Spring at Round Spring, Mo.....	-	1928-39.
Jacks Fork:		
Alley Branch:		
Alley Spring at Alley, Mo.....	-	1928-39.
Jacks Fork at Eminence, Mo.....	398	1921-
Current River near Eminence, Mo.....	1,272	1921-
Current River at Van Buren, Mo.....	1,667	1912-
Big Spring near Van Buren (near Chicopee), Mo.....	-	1921-
Current River at Doniphan, Mo.....	2,038	1918-
Little Black River near Fairdeal, Mo.....	187	1939-42.
Black River at Pocahontas, Ark.....	4,843	1936-
Spring River at Imboden, Ark.....	1,162	1936-
Eleven Point River:		
Kings Creek near Willow Springs, Mo.....	4.91	1955-
Eleven Point River near Thomasville, Mo.....	361	1950-
Greer Spring at Greer, Mo.....	-	1904*; 1921-
Eleven Point River near Bardley, Mo.....	793	1921-
Eleven Point River near Ravenden Springs (near Eleven Point), Ark.....	1,123	1929-33; 1936-
Black River at Black Rock, Ark.....	7,323	1929-31; 1939- (1904- *) <u>b/</u>
Strawberry River near Evening Shade, Ark.....	225	1939-
Piney Fork Strawberry River at Evening Shade, Ark....	99	1939-
Strawberry River near Poughkeepsie, Ark.....	476	1936-
White River at (near) Newport, Ark.....	19,812	1927-31; 1937- ; (1885- *) <u>b/</u>
Middle Fork Little Red River at Shirley, Ark.....	294	1939-
South Fork Little Red River near Clinton, Ark.....	316	1939-
Little Red River near Heber Springs, Ark.....	1,141	1927-
Little Red River near Pangburn, Ark.....	1,227	1909-10*.
White River at DeValls Bluff, Ark.....	23,431	1927-45; 1949-
Cache River at Patterson, Ark.....	1,041	1928-31; 1937-50†; (1916-31*) <u>b/</u> ; (1945- *) <u>c/</u>
Lagru Bayou near Stuttgart, Ark.....	175	1935-54.
Arkansas River basin		
Arkansas River:		
East Fork Arkansas River:		
Fremont Pass ditch at Fremont Pass, Colo.....	-	1929- †
Chalk Creek:		
Columbine ditch near Fremont Pass, Colo.....	-	1931- †
East Fork Arkansas River near Leadville (at Leadville Junction), Colo.....	50	1890; 1903†; 1910-24.
Tennessee Fork:		
Thayer Gulch:		
Ewing ditch at Tennessee Pass, Colo.....	-	1908- †
West Tennessee Creek:		
Wurtz ditch near Tennessee Pass, Colo.....	-	1932- †
Tennessee Fork near Leadville, Colo.....	48	1890; 1903†; 1910-13†; 1913-24.
Lake Fork:		
Busk Creek:		
Busk Ivanhoe tunnel at east portal, near Malta, Colo.	-	1925- †
Lake Fork above Sugar Loaf Reservoir, Colo.....	18	1946-
Lake Fork below Sugar Loaf Reservoir (near Leadville) (Lake Fork Arkansas River at Arkansas Junction), Colo.....	26	1890; 1903*; 1946-52.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

b/ In reports of U. S. Weather Bureau.

c/ In reports of Mississippi River Commission.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Arkansas River basin--continued		
Lake Fork--continued		
Halfmoon Creek near Malta, Colo.....	23	1946-
Halfmoon Creek near Leadville, Colo.....	24	1911-14.
North Fork Lake Creek:		
Twin Lakes tunnel at east portal, near Twin Lakes, Colo.....	-	1935- †
Lake Creek above Twin Lakes Reservoir, Colo.....	75	1946-
Lake Creek near Twin Lakes (Interlachen), Colo.....	-	1900*.
Lake (Twin Lake) Creek (Outlet) below (at) (near) Twin Lakes Reservoir, Colo.....	107	1890; 1899-1900; 1910; 1945-53.
Arkansas River at Granite, Colo.....	427	1895*; 1897-98; 1899*; 1901*; 1910-27; 1927-33†; (1927-33)f/;
		1933-
Clear Creek above Clear Creek Reservoir, Colo.....	59	1946-
Clear Creek below Clear Creek Reservoir (near Granite), Colo.....	62	1890; 1946-53.
Cottonwood (Middle Fork Cottonwood) Creek near Buena Vista, Colo.....	a/37	1890.
South Fork Cottonwood Creek near Buena Vista, Colo.....	a/29	1890.
Cottonwood Creek above Hot Springs, near Buena Vista, Colo.....	-	1910-11*.
Cottonwood Creek below Hot Springs, near Buena Vista, Colo.....	a/65	1910-23; 1949-
North Cottonwood Creek near Buena Vista, Colo....	a/50	1911-14.
Chalk Creek (upper station) near St. Elmo, Colo....	a/48	1913-19.
Chalk Creek near St. Elmo, Colo.....	a/83	1910-16
Chalk Creek near Nathrop (Buena Vista), Colo.....	a/97	1910*†; 1949-
Arkansas River at Salida, Colo.....	1,218	1895; 1896**; 1897-1903; 1909-27; 1927-33†; (1927-33)f/; 1933-
		1910-18.
South (Fork) Arkansas River at Poncha, Colo.....	a/140	
Poncha Creek:		
Larkspur ditch at Marshall Pass, Colo.....	-	1935- †
Poncha Creek at Poncha, Colo.....	a/56	1910-18.
South Arkansas River (at mouth) near Salida, Colo..	208	1922-23†; 1929-33†; (1922-23; 1929-33)f/; 1933-40.
Texas Creek at Texas Creek (near Cotapaxi), Colo...	144	1923†; (1923)f/.
Arkansas River at Parkdale, Colo.....	2,556	1945-55.
Grape Creek near Westcliffe, Colo.....	320	1924-28; 1928-33†; (1930-33)f/;
		1933-
Grape Creek near Canon City, Colo.....	481	1907-9*.
Arkansas River at Canon City (near Canyon), Colo.....	3,117	1888-1927; 1927-33†; (1927-33)f/;
		1933-
Oil (Fourmile) Creek near Canon City, Colo.....	432	1910*; 1948-53.
Arkansas River at Portland, Colo.....	4,024	1939-52.
West Beaver Creek:		
Middle Beaver Creek:		
Boehmer Creek near Pikes Peak, Colo.....	a/7.2	1909-30†.
Little Beaver Creek near Pikes Peak, Colo....	1.00	1909-50†.
Sackett Creek near Pikes Peak, Colo.....	.65	1909-50†.
West Beaver Creek near Victor, Colo.....	a/66	1905-50†.
Arkansas River near (at) Pueblo (at Rock Canyon), Colo.	4,686	1885-87; 1889; 1894-1927; 1927-33†; (1927-33)f/; 1933-
Fountain Creek:		
North Catamount Creek near Green Mountain Falls, Colo.....	5.80	1935-50†.
South Cascade Creek at Cascade, Colo.....	3.41	1935-50†.
Ruxton Creek:		
Lion Creek near Halfway, Colo.....	2.00	1908-50†.
Sheep Creek near Halfway, Colo.....	.73	1908-50†.
South Ruxton Creek at (near) Halfway, Colo.....	a/4.0	1906-30†.
Cabin Creek near Halfway, Colo.....	a/2.3	1906-30†.
Sutherland Creek near Manitou, Colo.....	a/4.4	1918-30†.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

†† Unpublished.

** Periodic discharge measurements only.

a/ Approximately.

f/ In reports of the State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Arkansas River basin--continued		
Pountain Creek at Manitou, Colo.....	89	1926†; (1926)f/
Monument Creek at Pikeview, Colo.....	203	1938-49.
Templeton Gap Floodway near Colorado Springs, Colo..	8.46	1951-
Bear Creek near Colorado Springs, Colo.....	a/6.9	1918-30†.
Pountain Creek at Colorado Springs, Colo.....	409	1921-24†; (1922-24)f/.
Pountain Creek near Fountain, Colo.....	676	1938-54.
Pountain Creek at Pueblo, Colo.....	926	1922-25†; (1922-25)f/;
		1940-41†; 1941-
St. Charles River at San Isabel, Colo.....	18.8	1936-40; 1940-41†.
St. Charles River at Burnt Mill, Colo.....	166	1923-33†; (1923-33)f/; 1933-34.
Greenhorn Creek at Rye, Colo.....	a/12	1922-23†; (1922-23)f/.
St. Charles River near Pueblo, Colo.....	468	1941-42†; 1942-53.
St. Charles River at mouth, near Pueblo, Colo.....	482	1922-25†; (1922-25)f/.
Arkansas River near Avondale, Colo.....	6,327	1939-51.
Sixmile Creek near Avondale, Colo.....	45	1922-24†; 1941-42†; 1942-46.
Chico Creek near North Avondale, Colo.....	864	1941†; 1942-46.
Huerfano River at Manzanares Crossing, near Redwing, Colo.....	73	1923-33†; (1923-33)f/; 1933-
Huerfano River at Malachite, Colo.....	107	1923-25†; (1923-24)f/.
Huerfano River near Badito, Colo.....	499	1941-46.
Huerfano River at Badito, Colo.....	532	1912; 1923-25†; (1923-24)f/;
		1938-54.
Huerfano River at Huerfano, Colo.....	717	1923-28†; (1924-28)f/.
Huerfano River near Mustang, Colo.....	803	1942-47.
Cucharas River at Boyd Ranch, near La Veta, Colo.....	56	1934-
Cucharas River near La Veta, Colo.....	a/75	1923-33†; (1923-33)f/; 1933-34.
Cucharas River at Walsenburg, Colo.....	-	1907-8*.
Huerfano River near Undercliffe, Colo.....	1,673	1938-39.
Huerfano River below Huerfano Valley Dam, near Undercliffe, Colo.....	1,673	1939-
Huerfano River (at mouth), near Nepesta, Colo.....	1,875	1922-25†; (1922-25)f/.
Arkansas River near (at) Nepesta (Boone), Colo.....	9,345 (54)	1903; 1912-36†; (1916)f/; 1936-
Arkansas River at (near) Nepesta, Colo.....	a/9,460	1897-1900; 1901†; 1902;
		1904†; 1906-10†; 1911*;
		1911-12; 1913-33†; (1914-15;
		1917-33)f/; 1933-36.
Apishapa River near Aguilar, Colo....	126	1939-50.
Apishapa River at Aguilar, Colo.....	149	1938-39.
Apishapa River near White Rock, Colo.....	739	1942-47.
Apishapa River (at mouth), near Fowler, Colo.....	1,125	1922-25†; (1922-25)f/; 1939-
Arkansas River near Manzanola, Colo.....	-	1898*.
Arkansas River near (at) Rocky Ford, Colo.....	11,086 (54)	1897-99; 1900†; 1901†; 1902;
		1903.
Timpas Creek near Rocky Ford (at Catlin Siphon), Colo..	451	1922-27†; (1923-27)f/; 1940-50.
Timpas Creek at mouth, near Swink, Colo.....	481	1922-25†; (1922-25)f/.
Arkansas River near (at) La Junta, Colo.....	-	1899*; 1900-1901†.
Crooked Arroyo near La Junta, Colo.....	87	1922-25† (1922-25)f/.
Arkansas River at La Junta, Colo.....	12,210 (115)	1889; 1893-95*; 1903; 1908*;
		1912-13; 1914-33†;
		(1914-33)f/; 1933-
Horse Creek near Sugar City, Colo.....	1,080 (54)	1940-47.
Arkansas River at Las Animas, Colo.....	14,417 (441)	1898*; 1909*; 1939-
Purgatoire (Purgatory) River at Trinidad, Colo.....	795	1896-99; 1905-12; 1915-33†;
		(1916-33)f/; 1933-
Purgatoire River near Hoshne, Colo.....	-	1954-
San Francisco Creek near Alfalfa, Colo.....	-	1954-
Purgatoire (Purgatory) River near Alfalfa, Colo.....	1,320	1905-7; 1924-28†
		(1924-28)f/; 1951-
Purgatoire River at Ninemile Dam, near Higbee, Colo....	2,900	1924-33†; (1924-33)f/; 1933-
Purgatoire (Purgatory) River at J. J. Ranch, near La Junta, Colo.....	-	1898*.
Purgatoire (Purgatory) River near Higbee, Colo.....	-	1909*.
Purgatoire River at Highland Dam, near Las Animas, Colo	3,376	1931-33†; (1931-33)f/; 1933-55.
Purgatoire (Purgatory) River (Creek) near (at) Las Animas, Colo.....	3,503	1889; 1909*; 1922-31†;
		(1922-31)f/; 1948.
Arkansas River at Fort Lyon (New Fort Lyons), Colo.....	17,949 (441)	1911.
Rule Creek near Caddoa, Colo.....	435	1941-46.
John Martin Reservoir at Caddoa, Colo.....	18,915 (785)	1943-†.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

f/ In reports of State engineer of Colorado.

Note.- Figures of drainage area in parentheses show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Arkansas River basin--continued		
Arkansas River below John Martin Reservoir (at Caddoa), Colo.....	18,917(785)	1938-
Caddoa Creek at Caddoa, Colo.....	131	1941-44; 1944-45†; 1945-46.
Mud Creek near Caddoa, Colo.....	186	1942-43.
Arkansas River near (at) Prowers, Colo.....	19,050	1900†; 1901; 1903.
Arkansas River at Amity Canal headgates, near Prowers, Colo.....	-	(1898-99; 1900-1901†)g/.
Arkansas River at Lamar, Colo.....	19,780(950)	1913; 1914-33† (1914-33)f/ 1933-55. 1910-12*.
Big Sandy Creek near Kit Carson, Colo.....	-	
Big Sandy Creek above Amity Canal diversion, near Kornman, Colo.....	3,396(585)	1941†; 1941-46.
Arkansas River near (at) Granada, Colo.....	23,707	1899-1901*; 1903.
Two Butte Creek near Holly, Colo.....	817	1942-46.
Arkansas River at Holly (Bryon, Barton), Colo.....	25,073(1,648)	1894*; 1901-2*; 1907-10†; 1910-12; 1913†; (1913)f/ 1914-27; 1927-33†; (1927-33)f/ 1933-53.
Wild Horse Creek at (near) Holly, Colo.....	272(60)	1922-27; 1927-33†; (1927-33)f/1933-35; 1938-50.
Holly drain near Holly, Colo. (Coolidge, Kans)....	-	1924-27; 1927-33†; (1927-33)f/1933-50.
Frontier ditch near Coolidge, Kans.....	-	1950-
Arkansas River near Coolidge, Kans.....	25,410(1,708)	1903; 1921†; 1950-
Arkansas River at Syracuse, Kans.....	25,763(1,857)	1902-6†; 1921-
Diversions from Arkansas River between Syracuse and Garden City gaging stations, Kans.....	-	(1920-50)h/.
Arkansas River at Garden City, Kans.....	27,071(2,368)	1922-
Arkansas River at Dodge City, Kans.....	30,600(5,583)	1902-6†; 1944- ; (1909-32*)b/
Arkansas River near Kinsley, Kans.....	31,068(5,660)	1944-
Arkansas River at Larned, Kans.....	31,750(5,733)	1922-40.
Pawnee River near Larned, Kans.....	2,148(138)	1924-
Arkansas River at Great Bend, Kans.....	34,356(6,002)	1940- ; (1909*)b/
Arkansas River at Hutchinson, Kans.....	37,869(6,939)	1895-1905.
Cow Creek near Lyons, Kans.....	728(239)	1938-51.
Arkansas River near Wichita, Kans.....	39,076(7,186)	1920-35.
Little Arkansas River at Valley Center, Kans.....	1,327(77)	1922-
Arkansas River at Wichita, Kans.....	40,420(7,263)	1934- ; (1887*)b/.
North Fork Ninnescah River near Cheney, Kans.....	930(237)	1950-
South Fork Ninnescah River near Murdock, Kans....	650(107)	1950-
Ninnescah River near Peck, Kans.....	2,129(344)	1938-
Diversion canal from Arkansas River at Arkansas City, Kans.....	-	1921-23†; (1921-23)h/.
Arkansas River at Arkansas City, Kans.....	43,713(7,607)	1902-6†; 1921-
Walnut River:		
Whitewater River at Augusta, Kans.....	456	1950-55.
Walnut River at Winfield, Kans.....	1,840	1921-
Walnut River near Arkansas City, Kans.....	1,952	1902-3.
Salt Fork Arkansas River near Alva, Okla.....	1,009	1904-5*; 1937-50.
Medicine Lodge (Medicine River) River near Kiowa, Kans.....	914	1895-96; 1937-50; 1954-55.
Salt Fork Arkansas River near Cherokee, Okla.....	2,439	1940-50.
Great Salt Plains Reservoir near Jet, Okla.....	3,200	1941-47†; 1947-
Salt Fork Arkansas River near Jet, Okla.....	3,202	1937-
Salt Fork Arkansas River at Tonkawa, Okla.....	4,528	1903-5*; 1935-
Chikaskia River near Corbin, Kans.....	794	1950-
Chikaskia River near Blackwell, Okla.....	1,859	1935-
Arkansas River at Ralston, Okla.....	54,465(7,615)	1925- ; (1922- *)b/
Black Bear Creek at Pawnee, Okla.....	576	1944-
Cimarron River near Guy, N. Mex.....	545	1942-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

b/ In reports of U. S. Weather Bureau.

f/ In reports of State engineer of Colorado.

g/ Figures in 1898 show flow in canal only. It is not known whether figures for other periods show flow of river above or below canal diversion.

h/ In reports of Kansas Water Commission or Kansas State Board of Agriculture.

Note.--Since about 1948, Cow Creek has entered Arkansas River through an artificial channel above the old Hutchinson gage site so that the drainage areas and downstream order shown for Hutchinson do not apply to present conditions. Figures of drainage area in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Arkansas River basin--continued		
Cimarron (Dry Cimarron) River near (Kenton, Okla.)		
Folsom, N. Mex.....	895	1927-30†; (1927-30)1/; 1930-33.
Cimarron River near Kenton, Okla.....	1,106 (68)	1904-5*; 1950-
Cimarron River above Ute Creek, near Boise City (Garret), Okla.....	1,955 (76)	1905-7; 1942-54.
Cimarron River near Boise City, Okla.....	2,214 (191)	1938-42.
Cimarron River near Satanta, Kans.....	7,345 (3,423)	1942-46.
Cimarron River near Liberal (Arkalon), Kans.....	8,254 (4,147)	1895-96; 1903-5*; 1937-42.
Cimarron River near Mokane, Okla.....	8,670 (4,365)	1942-
Crooked Creek near Nye, Kans.....	1,157 (344)	1942-
Cimarron River near Waynoka, Okla.....	13,334 (4,830)	1903-5*; 1937-
Preacher Creek near Dover, Okla.....	14.5	1951-
Turkey Creek near Drummond, Okla.....	248	1947-
Cottonwood Creek:		
Deer Creek:		
Bluff Creek above Lake Heffner, near Oklahoma City, Okla.....	1.62	1950-
Cimarron River near Guthrie, Okla.....	16,892 (4,926)	1937-
Skeleton Creek near Lovell, Okla.....	410	1949-
Cimarron River at Perkins, Okla.....	17,852 (4,926)	1939- ; (1927- *)b/
Stillwater Creek:		
Lake Carl Blackwell near Stillwater, Okla.....	75	1955-
Stillwater Creek at Stillwater, Okla.....	168	1934-37.
West Fork Brush Creek near Stillwater, Okla...	13.1	1934-37.
Council Creek near Stillwater, Okla.....	31	1934-
Cimarron River at Oilton, Okla.....	18,669 (4,926)	1934-45.
Cimarron River at Mannford, Okla.....	18,849 (4,926)	1938-50.
Arkansas River at Tulsa, Okla.....	74,615 (12,541)	1925- ; (1904- *)b/
Polecat Creek:		
Heyburn Reservoir near Heyburn, Okla.....	123	1950-
Polecat Creek at Heyburn, Okla.....	129	1943-
Verdigris River near Coyville, Kans.....	747	1939-
Verdigris River near Altoona, Kans.....	1,138	1938-
Fall River near Eureka, Kans.....	336	1946-
Otter Creek at Climax, Kans.....	129	1946-
Fall River Reservoir near Fall River, Kans.....	585	1949-54†; 1954-
Fall River near Fall River, Kans.....	591	1939-
Fall River at Fall River, Kans.....	-	1904-5*.
Fall River at Fredonia, Kans.....	827	1938-
Elk River near Elk City, Kans.....	575	1938-
Verdigris River at Independence (near Liberal), Kans.	2,892	1895-1904; 1921-
Verdigris River near Lenapah, Okla.....	3,639	1938-
Verdigris River near Sageeyah, Okla.....	4,402	1938-45; (1927-41*)b/
Caney River near Elgin, Kans.....	445	1939-
Hulah Reservoir near Hulah, Okla.....	732	1950-
Caney River near Hulah, Okla.....	736	1937-
Caney Creek:		
Bee Creek near Havana, Kans.....	11.0	1954-
Caney Creek near Copan, Okla.....	424	1943-
Caney River at Bartlesville, Okla.....	1,465	1949-
Double Creek:		
Nellie Bly Creek:		
Double Creek subwatershed No. 5 (Nellie Bly Creek) near Ramona, Okla.....	2.39	1954- †.
Caney River near Ramona (near Collinsville), Okla.	1,955	1935-39; 1945-
Verdigris River near Claremore, Okla.....	6,534	1935-
Bird Creek at Avant, Okla.....	364	1945-
Hominy Creek near Skiatook, Okla.....	340	1944-
Bird Creek near Sperry, Okla.....	905	1938-
Bird Creek near Owasso, Okla.....	1,022	1935-39.
Verdigris River near Catoosa, Okla.....	7,709	1903-5*.
Verdigris River near Inola, Okla.....	7,911	1944-
Neosho River at Council Grove, Kans.....	250	1938-
Cottonwood River near Marion, Kans.....	329	1939-
Cedar Creek near Cedar Point, Kans.....	110	1938-
Cottonwood River at Elmdale, Kans.....	1,045	1922-32.
Middle Creek near Elmdale, Kans.....	92	1938-50.
Cottonwood River at Cottonwood Falls, Kans.....	1,402	1932-

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† Monthly figures of discharge or contents only.

b/ In reports of U. S. Weather Bureau.

1/ In reports of State engineer of New Mexico.

Note.--Figures of drainage area in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Arkansas River basin--continued		
Neosho River at Strawn, Kans.....	2,933	1948-
Neosho River near (at) Iola, Kans.....	3,918	1895-1913; 1917-
Neosho River near Parsons, Kans.....	4,905	1921-
Lightning Creek near McCune, Kans.....	197	1938-46.
Labette Creek near Oswego, Kans.....	211	1938-45.
Neosho River near Commerce, Okla.....	5,976	1939-
Spring River:		
Stahl Creek near Miller, Mo.....	3.86	1950-
Spring River near Waco, Mo.....	1,164	1924-
Turkey Creek at Joplin, Mo.....	a/33	1932-40.
Shoal Creek above Joplin, Mo.....	410	1941-
Shoal Creek near Joplin, Mo.....	439	1924-41.
Spring River near Quapaw, Okla.....	2,510	1939-
Lost Creek at Seneca, Mo.....	42	1948-
Elk River near Tiff City, Mo.....	872	1939-
Neosho River near Grove, Okla.....	9,969	1924-39.
Lake O' The Cherokees (or Grand Lake) at Langley, Okla.....	10,298	1940-41†; 1942-
Neosho River (or Grand River) near Langley, Okla.....	10,335	1939-
Big Cabin Creek near Big Cabin, Okla.....	466	1947-
Neosho River (or Grand River) near Chouteau, Okla.....	11,546	1937-50.
Pryor Creek near Pryor, Okla.....	229	1947-
Neosho River (or Grand River) near Wagoner, Okla.....	12,307	1924-25; 1937-49.
Fort Gibson Reservoir near Fort Gibson, Okla.....	12,492	1949-
Neosho River (or Grand River) below Fort Gibson Reservoir, near Fort Gibson, Okla.....	12,495	1950-
Neosho River (or Grand River) near Fort Gibson, Okla..	-	1999*; 1903-5*.
Arkansas River near Muskogee, Okla.....	96,674 (12,541)	1925-
Illinois River:		
Osage Creek near Elm Springs, Ark.....	129	1950-
Illinois River near Watts, Okla.....	635	1955-
Flint Creek near Kansas, Okla.....	110	1955-
Illinois River near Tahlequah, Okla.....	959	1935-
Barren Fork at Eldon, Okla.....	307	1948-
Tenkiller Ferry Reservoir near Gore, Okla.....	1,610	1952-
Illinois River near Gore, Okla.....	1,626	1924-25; 1939-
Dirty Creek near Warner, Okla.....	227	1939-46.
Canadian River near Hebron, N. Mex.....	229	1946-
Chicomica Creek below Lake Maloya, N. Mex.....	a/26	1945-51.
Chicomica Creek below East Fork, near Raton, N. Mex.....	a/71	1945-51.
Chicomica (Chico Rico) Creek near Raton, N. Mex.....	a/87	1910-12*; 1913-14.
Una Del Gato Creek near Raton, N. Mex.....	a/80	1910-13*.
Una de Gato Creek near Hebron, N. Mex.....	224	1946-50.
Chicomica Creek near Hebron, N. Mex.....	381	1945-51.
Eagle Tail ditch near Maxwell, N. Mex.....	-	1945; 1946-50†.
Vermejo River near Dawson, N. Mex.....	301	1915-21†; 1927-30†; (1915-21; 1927-30)1/; 1930-
Vermejo ditch at Colfax, N. Mex.....	-	1945; 1946-50†.
Moreno Creek (Head of Cimarron Creek) at (near Therma), Eagle Nest, N. Mex.....	a/82	1928-30†; (1928-30)1/; 1930-55.
Cieneguilla Creek near (Therma) Eagle Nest, N. Mex.....	a/56	1928-30†; (1928-30)1/; 1930-55.
Six Mile Creek near (Therma) Eagle Nest, N. Mex....	a/11	1928-30†; (1928-30)1/; 1930-55.
Eagle Nest Reservoir near Eagle Nest, N. Mex.....	167	1928-44†; 1950- †
Cimarron Creek (River) below Eagle Nest Dam, N. Mex.....	167	1950-
Cimarron Creek (River) at Ute Park, N. Mex.....	a/260	1907-14; 1915-30†; (1915-24; 1926-30)1/; 1930-50.
Cimarron Creek (River) near Cimarron, N. Mex.....	294	1950-
Ponil Creek near Cimarron, N. Mex.....	171	1915-25†; 1927-29†; (1915-24; 1929)1/; 1950-
Rayado Creek (River) near Cimarron, N. Mex.....	-	1911†; 1913-14†.
Rayado Creek (River) at Sauble Ranch (at, near and above Abreu's Ranch) near Cimarron, N. Mex....	a/65	1909-14; 1915-20†; 1923-24†; 1927-30†; (1915-20; 1923-24; 1927-30)1/; 1930-
Rayado Creek (River) below Abreu's Ranch, near Cimarron, N. Mex.....	a/75	1912-13.
Rayado Creek (River) near Miami, N. Mex.....	a/76	1939-55.
Rayado Creek (River) near Springer, N. Mex.....	77.5	1907-9.
Uracca Creek near Cimarron, N. Mex.....	a/6.3	1912-14; 1915†; (1915)1/.

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† Monthly figures of discharge or contents only. a/ Approximately.

‡ Fragmentary record.

Note.--Figures of drainage areas in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq. mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Arkansas River basin--continued		
Canadian River--continued		
Cimarron Creek (River) at Springer, N. Mex.....	1,032	1907-9; 1921-22†; 1924-30†; (1921-22; 1924-30)1/; 1930-
Canadian River near Taylor Springs, N. Mex.....	2,953	1940-
Ocate Creek:		
East Fork Ocate Creek (River) at Ocate, N. Mex.	a/35	1915-23†; (1915-24; 1926-29)1/.
Ocate Creek (River) near Ocate, N. Mex.....	-	1914*.
Colmor intake canal near Ocate, N. Mex.....	-	1933-51.
Sweetwater Creek near Colmor, N. Mex.....	-	1914.
Canadian River near Roy, N. Mex.....	4,066	1936-
Rio Agua Negro (head of Mora River) near Holman, N. Mex.....	a/62	1953-
La Cueva canal at La Cueva, N. Mex.....	-	1904*; 1906-11.
Mora River at La Cueva, N. Mex.....	185	1903-4*; 1905-11; 1931-
Mora River at Weber, N. Mex.....	-	1903-4*.
Mora River near Golondrinas, N. Mex.....	273	1915-30†; (1915-24; 1926-30)1/; 1930-
Coyote Creek below Black Lake, N. Mex.....	a/47	1953-
Coyote Creek at Guadalupeita, N. Mex.....	a/90	1920-23†; (1920-23)1/.
Coyote Creek near Golondrinas, N. Mex.....	257	1923-30†; (1928-30)1/; 1930-
Sapello River (above Manuelitos River), at Sapello, N. Mex.....	-	1903-4*.
Manuelitos River at Sapello, N. Mex.....	-	1903-4*.
Sapello Mill Tailrace at Sapello, N. Mex.....	-	1903-4*.
Sapello River at Sapello, N. Mex.....	a/120	1915-21†; (1915-21)1/.
Sapello River at (near) Los Alamos, N. Mex.....	144	1903-4*; 1905-11.
Mora River near Shoemaker, N. Mex.....	1,104(71)	1914; 1915-25†; 1927-30†; 1915-24; 1927-30)1/; 1930-
Canadian River near Sanchez, N. Mex.....	6,015(303)	1912-14; 1935†; 1935-
Canadian River near Bell Ranch, N. Mex.....	a/6,200(303)	1915-17†; 1927-30†; (1915-17; 1927-30)1/; 1930-39.
Conchas River at Variadero, N. Mex.....	523(130)	1936-
Conchas Reservoir near Conchas Dam, N. Mex.....	7,409(433)	1938†; 1939-50; 1950†-
Bell Ranch Canal near Conchas Dam, N. Mex.....	-	1942-46; 1947-†.
Conchas Canal below (near) Conchas Dam, N. Mex...	-	1945-46; 1947-49†; 1954-55†.
Canadian River below Conchas Dam, N. Mex.....	7,417(433)	1936-39; 1942-
Pajarito Creek near Hanley, N. Mex.....	a/310	1911-12*.
Pajarito Creek below Virgil Creek, near Hanley, N. Mex.....	a/350	1912-13*.
Ute Creek near Bueyeros, N. Mex.....	a/820(162)	1949-54.
Ute Creek near Logan, N. Mex.....	2,073(617)	1904-6*; 1909-14*; 1942-
Canadian River at Logan N. Mex.....	11,141(1,110)	1904-5*; 1909-10; 1911†; 1912-14; 1924-30†; (1924-30)1/; 1930-
Canadian River near Amarillo, Tex.....	19,445(4,069)	1924-25; 1938-
Canadian River near Canadian, Tex.....	22,866(4,698)	1924-25*; 1938-
Canadian River at Bridgeport, Okla.....	25,229(4,801)	1944-
Canadian River near Newcastle, Okla.....	25,763(4,801)	1938-45.
Little River near Norman, Okla.....	120	1951-55.
Little River below Hog Creek, near Norman, Okla..	257	1952-
Little River near Tecumseh, Okla.....	456	1943-
Little River near Sasakwa, Okla.....	865	1942-
Canadian River at Calvin, Okla.....	27,952(4,801)	1905-6; 1907-8*; 1938-42; 1944- ; (1904-*)b/
Gaines Creek near Krebs, Okla.....	588	1942-
North Canadian River near Guymon, Okla.....	2,139(964)	1937-
Coldwater Creek near Hardesty, Okla.....	1,967(1,200)	1939-
Palo Duro Creek near Spearman, Tex.....	a/960(520)	1943-
North Canadian River(Beaver Creek) at Beaver, Okla.	7,955(4,270)	1904 5*; 1937-
North Canadian River near Fort Supply (near Supply), Okla.....	9,615(4,547)	1937-51.
Wolf Creek at Lipscomb, Tex.....	680(234)	1938-42.
Wolf Creek near Shattuck, Okla.....	1,133(222)	1937-46.
Wolf Creek near Fargo, Okla.....	1,624(238)	1942-
Fort Supply Reservoir near Fort Supply, Okla...	1,735(241)	1942-47† ; 1947-
Wolf Creek near Fort Supply(near Supply), Okla.	1,739(241)	1937-

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† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of U. S. Weather Bureau.

1/ In reports of State engineer of New Mexico.

Note.--Figures of drainage area in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Arkansas River basin--continued		
Canadian River--continued		
North Canadian River at Woodward, Okla.....	11,589(4,812)	1903-5*; 1905-6; 1938-
North Canadian River near Seiling, Okla.....	12,261(4,847)	1946-
Canton Reservoir near Canton, Okla.....	12,483(4,883)	1948-
North Canadian River at Canton, Okla.....	12,494(4,883)	1937- ; (1914- *)b/
North Canadian River near El Reno, Okla.....	13,042(4,999)	1902-8; 1937- ; (1914- *)b/
Lake Hefner Canal near Oklahoma City, Okla.....	-	1944-
Lake Overholser near Oklahoma City, Okla.....	-	1937- †
North Canadian River below Lake Overholser, near Oklahoma City, Okla.....	13,222(4,899)	1952-
North Canadian River near Oklahoma City (at Oklahoma), Okla.....	13,354(4,999)	1899*; 1938-53.
North Canadian River near Wetumka, Okla.....	14,290(4,999)	1937-
Deep Fork:		
Belcow Creek at Chandler, Okla.....	46	1948-55.
Dry Creek near Kendrick, Okla.....	-	1955-
Deep Fork near Beggs, Okla.....	2,018	1938-
Deep Fork near Dewar, Okla.....	2,307	1937-50.
North Canadian River near Eufaula, Okla.....	-	1899*.
Canadian River near Whitefield, Okla.....	45,576(9,700)	1938-
Sallisaw Creek near Sallisaw, Okla.....	182	1942-
San Bo's Creek near Keota, Okla.....	348	1938-42.
Arkansas River near Sallisaw, Okla.....	147,757(22,241)	1947-
Poteau River at Cauthron, Ark.....	200	1939-
Fourche Moline near Red Oak, Okla.....	122	1938-
Wister Reservoir near Wister, Okla.....	993	1949-
Poteau River near Wister, Okla.....	993	1938-
Poteau River at Poteau, Okla.....	1,240	1937-45.
Lee Creek:		
Cove Creek near Lee Creek, Ark.....	36.9	1950-
Lee Creek near Van Buren, Ark.....	427	1930-37; 1950-
Arkansas River at Van Buren, Ark.....	150,483(22,241)	1927-
Frog Bayou near Mountainburg, Ark.....	74	1936-
Frog Bayou at Rudy, Ark.....	217	1950-
Mulberry River near Mulberry, Ark.....	372	1938-
Six Mile Creek subwatershed No. 6 (Six Mile Creek), near Chismville, Ark.....	3.91	1954
Six Mile Creek at Chismville, Ark.....	23.4	1954
Six Mile Creek near Branch, Ark.....	35.5	1954-
Caney Creek:		
Six Mile Creek subwatershed No. 5 (Little Caney Creek) near Chismville, Ark.....	1.85	1954-
Six Mile Creek subwatershed No. 2 (Shaver Creek) near Caulksville, Ark.....	5.28	1954-
Six Mile Creek at Caulksville, Ark.....	102	1954-
Hurricane Creek near Branch, Ark.....	17.1	1954-
Hurricane Creek near Caulksville, Ark.....	50.1	1954-
Spadra Creek at Clarksville, Ark.....	54.8	1952-
Piney Creek near Dover, Ark.....	274	1950-
Illinois Bayou near Scottsville, Ark.....	242	1947-
Arkansas River at Dardanelle, Ark.....	153,707(22,241)	1937- ; (1886- *)b/
Petit Jean Creek near Booneville, Ark.....	247	1938-
Blue Mountain Reservoir near Waveland, Ark.....	488	1947-
Petit Jean Creek near Waveland (near Blue Mountain), Ark.....	517	1939-
Dutch Creek at Waltreak, Ark.....	74	1945-
Petit Jean Creek at Danville, Ark.....	741	1916-
North Fork Cadron Creek near Guy, Ark.....	197	1954-
Fourche La Pave River near Gravelly, Ark.....	413	1939-
Nimrod Reservoir near Nimrod, Ark.....	580	1944-
Fourche La Pave River near Nimrod, Ark.....	680	1936-
South Fourche La Pave River near Hollis, Ark.....	211	1941-
Arkansas River at Little Rock, Ark.....	158,201(22,241)	1927-31; 1933- ; (1873- *)b/; (1928-)c/
Bayou Meto near Lonoke, Ark.....	203	1954-
Bayou Meto near Stuttgart, Ark.....	560	1935-54.
Crooked Creek near Humphrey, Ark.....	87	1938-54.

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† Monthly figures of discharge or contents only.

b/ In reports of U. S. Weather Bureau.

c/ In reports of Mississippi River Commission.

Note.--Figures of drainage area in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Yazoo River basin		
Upper Tallahatchie River (head of Yazoo River)		
near New Albany, Miss.....	23.9	1939-41.
Cane Creek near New Albany, Miss.....	22.2	1939-41; 1950-
Lukesasper Creek at Cotton Plant, Miss.....	11.1	1939.
Hell Creek near New Albany, Miss.....	27.3	1939; 1941-42.
Locks Creek near Etta, Miss.....	29.3	1939.
Tallahatchie River at Etta, Miss.....	526	1938- ; (1936-37*) <u>1/</u>
Cypress Creek near Etta, Miss.....	28.5	1939-42.
North Tippah Creek near Ripley, Miss.....	20.0	1939-42.
Tippah drainage canal near Blue Mountain, Miss.....	18.4	1939.
Potts Creek near Potts Camp, Miss.....	8.26	1939-41.
Bagley Creek near Abbeville, Miss.....	9.96	1939-41.
Clear Creek near Oxford, Miss.....	9.30	1939-41; 1950-
Hudson Creek near Oxford, Miss.....	9.35	1939-41.
Sardis Reservoir near Sardis, Miss.....	1,545	1939-
Tallahatchie River at Sardis Dam, near Sardis, Miss.....	1,545	1940-
Tallahatchie River near Sardis, Miss.....	a/1,680	1928-42; (1931-38) <u>1/</u> .
Tallahatchie River at Batesville, Miss.....	a/1,750	1906-12.
Panola-Quitman Floodway (continuation of Tallahatchie River):		
Yocona River near Oxford, Miss.....	262	1951- ; (1946-51) <u>1/</u>
Enid Reservoir near Enid, Miss.....	560	1951-
Yocona River (near Enid) at Enid Dam, near Enid, Miss.....	560	1928- ; (1932-33) <u>1/</u>
Long Creek near Courtland, Miss.....	63.3	1940-42.
Tallahatchie River (old channel):		
Coldwater River near Lewisburg, Miss.....	218	1939-53; (1939-41) <u>1/</u> .
Pigeonroost Creek near Byhalia, Miss.....	116	1940-42.
Pigeonroost Creek near Lewisburg, Miss.....	228	1939-53; (1940-41) <u>1/</u> .
Coldwater River near Coldwater, Miss.....	617	1928-42; (1931-38) <u>1/</u> .
Arkabutla Reservoir near Arkabutla, Miss.....	a/1,000	1941-
Coldwater River at Arkabutla Dam, near Arkabutla, Miss.....	a/1,000	1942-
Coldwater River at Pratts bridge, near Arkabutla, Miss.....	a/1,000	1909**; 1937-41; (1937-38) <u>1/</u> .
Coldwater River at Savage, Miss.....	1,225	1908-12; 1935-42; (1935-38) <u>1/</u> .
Tallahatchie River (old channel) near Lambert, Miss.....	a/1,980	1935- ; (1936-38) <u>1/</u>
Tillatoba Creek:		
North Fork Tillatoba Creek near Charleston, Miss.....	43.7	1941-42.
Tallahatchie River at Swan Lake, Miss.....	a/5,130	1929- ; (1929-38) <u>1/</u> ; (1904- *) <u>b/</u>
Tallahatchie River at Phillip, Miss.....	5,165	1908-12; 1913*.
Yalobusha River at Calhoun City, Miss.....	305	1950-.
Yalobusha River at Graysport, Miss.....	607	1939-49.
Skuna River at Bruce, Miss.....	254	1947-
Skuna River near Coffeville, Miss.....	435	1939-49.
Turkey Creek:		
Turkey-Cypress Creek near Coffeville, Miss.....	22.3	1941-42.
Grenada Reservoir at Grenada Dam, near Grenada, Miss.....	a/1,320	1953-
Yalobusha River at Grenada Dam, near Grenada, Miss.....	a/1,320	1953-
Yalobusha River at Grenada, Miss.....	a/1,550	1906; 1908-12; 1928-53: (1932-38) <u>1/</u> .
Tippo Bayou:		
Askalmore Creek near Charleston, Miss.....	31.0	1941-42.
Palusha Bayou:		
Big Sand Creek:		
Thompson Creek near McCarley, Miss.....	13.9	1950- *
Yazoo River at Greenwood, Miss.....	a/7,450	1907-12; 1927- ; (1928-38) <u>b/</u> ; (1904- *) <u>b/</u>
Yazoo River at Yazoo City, Miss.....	8,580	1900*; 1901-4; 1905*; (1884- *) <u>b/</u> .
Sunflower River at Clarksdale, Miss.....	108	1935- ; (1918-35*, 1935-38) <u>1/</u> .
Sunflower River at Sunflower, Miss.....	767	1930*; 1931- ; (1871*); 1928-) <u>c/</u> ; (1873- *) <u>b/</u>
Mississippi River near Vicksburg, Miss.....		
a/1,144,500		
Big Black River basin		
Big Black River at Pickens, Miss.....	a/1,460	1936- ; (1936-38) <u>1/</u>
Big Black River near Bovina, Miss.....	a/2,810	1936- ; (1936-38) <u>1/</u>
Bayou Pierre basin		
Bayou Pierre near Carpenter, Miss.....	371	1944-51.
Homochitto River basin		
Homochitto River at Eddiceton, Miss.....	180	1938-
Homochitto River near Bude, Miss.....	399	1941-50.
Brushy Creek near Gloster, Miss.....	30.8	1942.

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† Fragmentary record.

** Discharge measurements only.

a/ Approximately.

b/ In reports of U. S. Weather Bureau.

c/ In reports of Mississippi River Commission.

1/ In reports of Corps of engineers.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Homochitto River basin--continued		
Homochitto River at Rosetta, Miss.....	a/750	1906*; 1951- ; (1949-51*) <u>1</u> /
Dry Creek near Knoxville, Miss.....	13.3	1942.
Homochitto River near Kingston, Miss.....	a/1,000	1944-48.
Second Creek at Sibley, Miss.....	55.3	1942.
Homochitto River near Doloroso, Miss.....	a/1,120	1939-46; 1949-51.
Buffalo River (Bayou) basin		
Buffalo River (Bayou) near Woodville, Miss.....	182	1942-
Red River basin		
Tierra Blanca Creek (head of Red River) at Reservoir, near Umbarger, Tex.....	2,075(1,500)	1938-54.
Buffalo Lake near Umbarger, Tex.....	2,075(1,500)	1938-50.
Tierra Blanca seepage investigation.....	-	1941.
Palo Duro Creek near Canyon, Tex.....	982(920)	1942-54*.
Prairie Dog Town Fork Red River (continuation of Tierra Blanca Creek) near Canyon, Tex.....	3,369(2,658)	1924-26; 1939-49.
Tule Creek:		
North Tule Draw(Creek)at Reservoir, near Tulia,Tex.	a/189(124)	1939-40 [†] ; 1940-
Prairie Dog Town Fork of Red River near Brice, Tex.....	5,972(4,479)	1939-44; 1949-51.
Mulberry Creek near Brice, Tex.....	534(238)	1949-51.
Prairie Dog Town Fork of Red River near Estelline, Tex.	7,293(4,769)	1924-25; 1938-47.
Salt Fork Red River near Wellington, Tex.....	1,222(209)	1952-
Salt Fork Red River at Mangum, Okla.....	1,566(209)	1905-6; 1937-
Turkey Creek near Olustee, Okla.....	244	1905-8*.
North Fork Red River near Carter, Okla.....	2,337(399)	1944-
North Fork Red River near Granite, Okla.....	2,494(399)	1903-8 ; 1937-44.
Lake Altus at Lugert, Okla.....	2,515(399)	1943-50 [†] ; 1950-
North Fork Red River below Altus Dam (at Lugert Dam), near Lugert, Okla.....	2,515(399)	1930-32; 1950-
Elm Fork of North Fork Red River (Elm Fork Red River) near Mangum, Okla.....	838	1905-8; 1930-31; 1937-47.
North Fork Red River near Lugert, Okla.....	3,435(399)	1929-31.
Elk Creek near Hobart, Okla.....	549	1904-8; 1949-
North Fork Red River near Headrick, Okla.....	4,244(399)	1905-8; 1937-
Otter Creek (near Mountain Park) at Snyder Lake, near Mountain Park, Okla.....	132	1903-8; 1951-
Horse Creek near Mountain Park, Okla.....	11.1	1905-6.
Otter Creek at Mountain Park, Okla.....	164	1946-51.
Dry Fork Otter Creek near Mountain Park, Okla....	12	1905-6.
North Pease River:		
Quitaque Creek near Quitaque, Tex.....	a/293(258)	1945-
Pease River near Crowell, Tex.....	3,037(559)	1924-47.
Red River near Burkburnett, Tex.....	20,570(5,936)	1924-25 [†] .
East Cache Creek near Elgin, Okla.....	-	1955-
Medicine (Medicine Bluff) Creek:		
Lake Lawtonka near Lawton, Okla.....	-	1913-18***; 1955- [†]
Little Medicine Bluff Creek near Lawton, Okla....	7.0	1912 19.
Medicine Bluff Creek near Lawton, Okla.....	101	1912-19.
Cache Creek near Walters, Okla.....	675	1938-
West Cache Creek:		
Deep Red Run near Randlett, Okla.....	617	1949-
Wichita River:		
Lake Kemp near Mabelle, Tex.....	2,099	1922- [†]
Wichita River at Wichita Falls, Tex.....	3,140	(1900-2) <u>k</u> /; 1910-11*; 1938-
Beaver Creek near Waurika, Okla.....	563	1953-
Little Beaver Creek near Duncan, Okla.....	158	1948
North Fork Little Wichita River:		
Lake Kickapoo near Archer City, Tex.....	275	1946- [†]
Little Wichita River near Archer City, Tex.....	481	1932 55.
Little Wichita River near Henrietta, Tex.....	1,037	1953-
Red River near Terral, Okla.....	28,723(5,936)	1938-
Red River near Gainesville, Tex.....	30,782(5,936)	1936-
Washita River near Cheyenne, Okla.....	794	1937-
Sandstone Creek near Grimes, Okla.....	7.2	193- *

* Gage heights or gage heights and discharge measurements only.

[†] Monthly figures of discharge or contents only.

* Fragmentary record.

*** Record of evaporation only.

a/ Approximately.

1/ In reports of Corps of Engineers.

k/ For irrigation investigations for 1900-1902, J. C. Nagle, U. S. Department of Agriculture Bull. 104 and 119.

Note--Figures of drainage area in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Red River basin--continued		
Washita River--continued		
Sandstone Creek subwatershed No. 16A near Cheyenne, Okla.	8.78	1952- †
Sandstone Creek subwatershed No. 16 near Cheyenne, Okla.	11.5	1952- †
Sandstone Creek subwatershed No. 14 near Cheyenne, Okla.	1.02	1951- †
Sandstone Creek subwatershed No. 17 (Current Creek) near Cheyenne, Okla.....	10.1	1952- †
Sandstone Creek near Berlin, Okla.....	44.9	191- ‡
Sandstone Creek subwatershed No. 10A near Elk City, Okla.	2.87	1951- †
East Branch Sandstone Creek:		
Sandstone Creek subwatershed No. 6 near Elk City, Okla.	6.46	1951- †
Sandstone Creek subwatershed No. 5 near Elk City, Okla.	3.89	1951- †
Sandstone Creek subwatershed No. 3 near Elk City, Okla.	0.62	1951- †
Sandstone Creek subwatershed No. 9 near Elk City, Okla.	3.50	1951- †
East Branch Sandstone Creek near Elk City, Okla.....	23.0	1951- ‡
Sandstone Creek near Cheyenne, Okla.....	87.1	1951- †
Sandstone Creek subwatershed No. 22 near Cheyenne, Okla.	2.25	1951- †
Sandstone Creek subwatershed No. 1 (Wildcat Creek) near Cheyenne, Okla.....	5.33	1951- †
Barnitz Creek near Arapaho, Okla.....	2.43	1945- †
Washita River near Clinton, Okla.....	1,977	1935- †
Washita River at Carnegie, Okla.....	3,129	1937- †
Pond (Cobb) Creek near Fort Cobb, Okla.....	319	1939- †
Washita River at (near) Anadarko, Okla.....	3,656	1902-8; 1924-25; 1935-38.
Sugar Creek near Gracemont, Okla.....	-	1955- †
Little Washita River at Ninnekah, Okla.....	227	1951- †
Washita River near Tabler, Okla.....	4,706	1939-52.
Washita River near (at) Pauls Valley, Okla.....	5,329	1899*; 1937- †
Rush Creek at Purdy, Okla.....	145	1933-53.
Rush Creek near Maysville, Okla.....	206	1953- †
Washita River near Berwyn, Okla.....	6,815	1924-25.
Caddo Creek near Ardmore, Okla.....	298	1936-50.
Washita River near Durwood, Okla.....	7,202	1928- †
Lake Texoma near Denison, Tex.....	39,719(5,936)	1942- †
Red River near Colbert, Okla. (Denison, Tex.).....	39,777(5,936)	1925- ; (1892-93* ; 1906-29*; 1931-49*) <u>b/</u> 1936-50; 1953- †
Blue River near Blue, Okla.....	478	1955- †
Muddy Boggy Creek (head of Muddy Boggy River):		
North Boggy Creek near Stringtown, Okla.....	-	1955- †
Chickasaw Creek near Stringtown, Okla.....	-	1955- †
Muddy Boggy Creek near Farris, Okla.....	1,087	1937- †
Clear Boggy Creek near Wapanucka, Okla.....	516	1940-43.
Clear Boggy Creek near Caney, Okla.....	720	1942- †
Red River at Arthur City, Tex.....	44,531(5,936)	1905-11; 1936- †
Kiamichi River:		
Tenmile Creek near Miller, Okla.....	-	1955- †
Kiamichi River near Belzoni, Okla.....	1,423	1923- †
Red River at Index, Ark.....	48,030(5,936)	1936- ; (1917- *) <u>b/</u> 1929-31; 1944- †
Little River near Wright City, Okla.....	645	1929-46.
Little River near Idabel, Okla.....	1,146	1929-46.
Little River below Lukfata Creek, near Idabel, Okla.....	1,226	1946- †
Mountain Fork River (Mountain Fork) near Eagletown (Broken Bow), Okla.....	787	1924-25; 1929- †
Rolling Fork near DeQueen, Ark.....	181	1948- †
Little River near Horatio, Ark.....	2,674	1930- †
Cossatot River near DeQueen, Ark.....	361	1938- †
Saline River near Dierks, Ark.....	124	1938- †
Red River at Fulton, Ark.....	52,380(5,936)	1949- ; (1985- *) <u>b/</u> ; (1937-38) <u>j/</u> ; (1942-43) <u>c/</u> 1927-31; 1934-49; (1890-99*) <u>c/</u> ; (1932-) <u>j/</u> 1942-49†; 1950- †
Red River at Garland (Garland City), Ark.....	52,775(5,936)	1927-31; 1934-49; (1890-99*) <u>c/</u> ; (1932-) <u>j/</u> 1942-49†; 1950- †
South Sulphur River near Cooper, Tex.....	527	1942-49†; 1950- †
North Sulphur River near Cooper, Tex.....	276	1949- †
Whiteoak Creek near Talco, Tex.....	494	1937-49†; 1950- †
Sulphur River near Darden, Tex.....	2,774	1923-54.

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‡ Fragmentary record.

b/ In reports of U. S. Weather Bureau.

c/ In reports of Mississippi River Commission.

j/ In reports of Corps of Engineers.

Note.--Figures of drainage area in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Red River basin--continued		
Cypress Creek near Pittsburg, Tex.....	366	1943-
Boggy Creek near Daingerfield, Tex.....	72	1943-
Ellison Creek Reservoir near Daingerfield, Tex.....	37	1943- †
Cypress Creek near Jefferson, Tex.....	850	1924-54.
Twelvemile Bayou (continuation of Cypress Creek):		
Black Bayou near Hosston, La.....	231	1943-44.
Kelly Bayou near Hosston, La.....	113	1944-
Black Bayou near Gilliam, La.....	364	1942-
Twelvemile Bayou near Dixie, La.....	3,137	1942-
Red River at Shreveport, La.....	60,613(5,936)	1928- ; (1873- *)c/
Bayou Dorcheat (head of Loggy Bayou) near Minden, La....	1,097	1928-29; 1938- ; (1929-31; 1938-38)j/
Flat River:		
Bayou Bodcau (head of Red Chute Bayou) near Serepta, La.....	546	1938-
Loggy Bayou near Ninock, La.....	2,628	1948-
Red River at Coushatta, La.....	63,362(5,936)	1939-52; (1890-94*; 1937-50*)j/
Bayou Pierre:		
Wallace Bayou:		
Boggy Bayou near Keithville, La.....	79	1938-
Cypress Bayou near Keithville, La.....	66	1938-
Saline Bayou near Lucky, La.....	154	1940-
Black Lake Bayou near Castor, La.....	423	1940-
Saline Bayou near Clarence, La.....	1,382	1949-
Nantachie (Nantaches) Creek near Montgomery, La.....	a/47	1942-
Cane River:		
Kisatchie Bayou:		
Little Sandy Creek at Kisatchie, La.....	21.4	1949-
Sand Creek:		
Bayou Provencal:		
McKims Creek:		
Horsepen Creek near Provencal, La.....	5.27	1949-
Bayou Jean de Jean:		
Hemphill Creek(head of Cotile Creek)near Hot Wells, La.	18.0	1948-
Red River at Alexandria, La.....	67,500(5,936)	1928- ; (1872- *)c/
Ouachita River(head of Black River) near Mount Ida, Ark.	410	(1941-49)†; 1949- ; 1947-48j/; (1941- *)j/ (1945- *)c/
South Fork Ouachita River near Mount Ida, Ark.....	64	1949-
Ouachita River near Mountain Pine, Ark.....	1,110	1936-50.
Lake Ouachita near Hot Springs, Ark.....	1,105	1952-
Ouachita River near Hot Springs, Ark.....	1,390	1922-30.
Lake Hamilton near Hot Springs, Ark.....	1,441	1930-50†.
Lake Catherine at Jones Mills, Ark.....	1,516	1924-50†.
Ouachita River near Malvern (at Remmel Dam, near Malvern), Ark.....	1,562	1903-5; 1922-24; 1937-
Ouachita River at Arkadelphia, Ark.....	2,446	1905-6; 1929; 1929-50†; (1928-38; 1939-46*; 1947-)j/.
Little Missouri River:		
Lake Greeson (Narrows Reservoir) near Murfreesboro, Ark.	237	1949-
Little Missouri River near Murfreesboro, Ark.....	380	1927-31; 1937-
Antoine Creek at Antoine, Ark.....	181	1954- ; (1938-41*; 1949- *)j/
Ouachita River at (near) Camden, Ark.....	5,391	1928-29; 1929-50†; (1929-38; 1947-)j/; (1929-45* ; 1946-)c/
Moro Creek near Fordyce, Ark.....	216	1951-
Saline River near Benton, Ark.....	569	1950- ; (1938-41; 1938-42* ; 1946-)j/; (1938- *)c/
Saline River near Rye, Ark.....	2,062	1937-
Saline River near Warren, Ark.....	2,579	1928-29; 1929-31†; 1937-40†; (1929-31; 1932-36* ; 1937-38; 1940* ; 1946*)j/
Bayou Bartholomew near Beekman, La.....	1,645	1928-29; 1938- ; (1929- *)j/

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a/ Approximately.

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j/ In reports of Corps of Engineers.

Note.--Figures of drainage area in parenthesis show approximate noncontributing area included in total area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mississippi River--continued		
Red River basin--continued		
Ouachita River--continued		
Bayou D'Arbonne near Dubach, La.....	355	1940-
Middle Fork Bayou D'Arbonne, near Bernice, La.....	178	1940-
Cornie Bayou near Lillie, La.....	462	1940-
Bayou Desiard at Monroe, La.....	-	1939- *
Ouachita River at Monroe, La.....	15,298	1938- ; (1884-1927*; 1928-)c/
Chentere Creek near Bawcomville, La.....	134	1943-45.
Boeuf River near Girard, La.....	-	1938- ; (1886-94*) c/ (1932- *)j/
Bayou LaFourche near Crow Lake, La.....	-	1938-
Big Colewa Bayou (head of Big Creek) near Oak Grove, La.....	a/42	1949-
Tensas River at Tensel, La.....	=	1938- ; (1937-38)j/
Bayou Macon near Delhi, La.....	=	1938- ; (1935-38; 1938- *)j/ (1885-99*)b/
Bayou Castor (head of Little River) near Grayson, La.....	271	1940-
Dugdemona River:		
Little Dugdemona River:		
Garrett Creek at Jonesboro, La.....	2.14	1952-
Dugdemona River near Jonesboro, La.....	362	1938-
Dugdemona River near Winnfield, La.....	648	1939-
Bayou Funny Louis near Trout, La.....	a/92	1939-
Big Creek at Pollock, La.....	a/51	1942-
<u>Thompson Creek basin</u>		
Thompson Creek:		
West Fork Thompson Creek near Wakefield, La.....	35.3	1949-
Mississippi River near Baton Rouge, La.....	1,243,500	1940- *;(1872- *; 1931-)c/
Mississippi River near New Orleans, La.....	1,243,600	1934- *;(1872- *; 1928-)c/
<u>Mississippi River Delta</u>		
Chefuncte River near Folsom, La.....	95.5	1944-
Tangipahoa River at Robert, La.....	646	1938-
Tickfaw River at Holden, La.....	242	1940-
Natalbany River at Baptist, La.....	79.5	1943-
Amite River near Darlington, La.....	580	1950-
Comite River near Olive Branch, La.....	149	1942-
Comite River near Comite, La.....	332	1944-
Amite River near Denham Springs, La.....	1,330	1938-
Bayou Manchac:		
Ward Creek at Government Street, at Baton Rouge, La.	-	1954-
Dawson Creek:		
Bayou Duplantier at City Lake, at Baton Rouge, La.	0.808	1933-38.
Ward Creek at Seigen Lane near Baton Rouge, La.....	40.0	1946-54.
Bayou Lafourche at Napoleonville, La.....	-	1954- *
Bayou Lafourche at Thibodaux, La.....	-	1954- *
Atchafalaya River at Krotz Springs, La.....	-	1934- ; (1932- *)c/
Bayou Courtableau (head of Bayou Teche):		
Bayou Cocodrie near Clearwater (Meeker), La.....	240	1922-25; 1937-
Bayou Courtableau at Washington, La.....	715	1946-
West Protection Levee borrow pit channel:		
Bayou des Glaisses:		
Bayou du Lac:		
Chatlin Lake Canal near Lecompte, La.....	79.5	1942-
Bayou des Glaisses diversion channel at Moreauville, La.....	270	1943-
West Protection Levee borrow pit channel near Plaquemine, La.....	321	1944-
Big Darbonne Bayou at culvert, near Krotz Springs, La.....	-	1953-
Bayou Courtableau at weirs, near Krotz Springs, La.....	-	1953-
Bayou Teche at Arnaudville, La.....	1,531	1949-
Bayou Carencro (head of Vermilion River) near Sunset, La.	37.1	1943-
Bayou Fusilier:		
Bayou Bourbeau at Shuteston, La.....	19.0	1942-

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ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

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ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

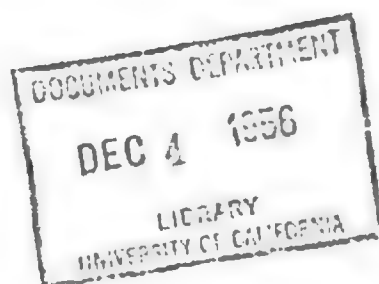
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U.S. GEOLOGICAL SURVEY CIRCULAR 388



INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 8.—WESTERN GULF OF MEXICO BASINS



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 388

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 8.—WESTERN GULF OF MEXICO BASINS

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 8.—WESTERN GULF OF MEXICO BASINS

By J. S. Gatewood

EXPLANATION

This index lists the streamflow and reservoir stations in the Western Gulf of Mexico basins for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indention and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indention in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 21 to 25.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Mermentau River basin</u>		
Bayou Nezpique (head of Mermentau River):		
Cypress Creek near Pine Prairie, La.....	56.0	1948-1951.
Bayou Nezpique near Basile, La.....	527	1938-
Bayou des Cannes near Eunice, La.....	131	1938-
Bayou Plaquemine Brule near Crowley, La.....	252	1942-47.
Long Point Gully near Crowley, La.....	25.7	1949-
Bayou Lacassine at Intracoastal Canal, La.....	-	1954- *
<u>Calcasieu River basin</u>		
Calcasieu River near Glenmora, La.....	499	1943-
Calcasieu River near Oberlin, La.....	753	1922-25; 1938-
Whiskey Chitto Creek:		
Tenmile Creek near Elizabeth, La.....	91.5	1949-
Whiskey Chitto Creek near Oberlin, La.....	510	1939-
Bundick Creek near Dry Creek, La.....	238	1939-
Calcasieu River near Kinder, La.....	1,700	1922-25; 1938-
English Bayou near Lake Charles, La.....	-	1954- *
Beckwith Creek (head of West Fork Calcasieu River) near DeQuincy, La.....	148	1945-
Hickory Branch at Kernan, La.....	82.2	1945-
<u>Sabine River basin</u>		
Sabine River near Emory, Tex.....	965	1952-
Sabine River near Golden, Tex.....	a/1,200	1924-26.
Sabine River near Mineola, Tex.....	1,445	1939-
Lake Fork Sabine River near Quitman, Tex.....	586	1924-26; 1939-
Big Sandy Creek near Big Sandy, Tex.....	235	1939-
Sabine River near Gladewater, Tex.....	2,846	1932-
Sabine River near Longview, Tex.....	3,013	1904-6; 1923-32.
Cherokee Bayou near Elderville, Tex.....	116	1939-49.
Lake Cherokee near Longview, Tex.....	-	1949- †
Sabine River near Tatum, Tex.....	3,586	1939-
Sabine River at Logansport, La.....	4,858	1903-6; 1907-23†; 1924-
Tenaha Creek near Shelbyville, Tex.....	87.0	1952-
Bayou San Patricio near Noble, La.....	154	1951-
Bayou San Miguel near Zwolle, La.....	113	1948-
Sabine River near Milam, Tex.....	6,543	1939-
Palo Gaucho Bayou near Hemphill, Tex.....	121	1952-
Sabine River at Sabinetown, Tex.....	6,754	1923-25.
Sabine River below Toledo Bend, near Burkeville, Tex.....	7,547	1955-
Little Cow Creek at Burkeville, Tex.....	-	1939- **
McGraw Creek near Burkeville, Tex.....	-	1940- **
Bayou Anacoco near Leesville, La.....	114	1948-
Bayou Anacoco near Rosepine, La.....	360	1951-
Sabine River near Bon Wier, Tex.....	8,323	1923-34; 1939-
Quicksand Creek near Bon Wier, Tex.....	-	1939-41; 1943- **
Big Cow Creek near Newton, Tex.....	141	1952-
Cypress Creek near Buna, Tex.....	63.4	1952-
Sabine River near Ruliff, Tex.....	9,440	1924-
Cow Bayou near Mauriceville, Tex.....	127	1952-
<u>Neches River basin</u>		
Neches River near Reese, Tex.....	851	1924-27.
Neches River near Neches, Tex.....	1,129	1939-
Neches River near Alto, Tex.....	1,903	1944-
Neches River near Diboll, Tex.....	2,670	1923-25; 1939-
Neches River near Rockland, Tex.....	3,539	1903-23†; 1924-
Angelina River:		
Mud Creek:		
Prairie Creek:		
Lake Tyler near Whitehouse, Tex.....	a/69	1949- †
Mud Creek near Jacksonville, Tex.....	382	1939-
Mud Creek at Ponta, Tex.....	481	1924-27.
Striker Creek:		
Bowles Creek seepage investigation.....	-	1942.
Striker Creek near Summerfield, Tex.....	148	1940-49.
Angelina River near Alto, Tex.....	1,274	1940-49*.
Angelina River near Lufkin, Tex.....	1,630	1923-34; 1939-
Attoyac Bayou:		
Arenosa Creek near San Augustine, Tex.....	76	1938-40.
Attoyac Bayou near Chireno, Tex.....	502	1924-25; 1939-54; 1955-
Angelina River near Zavalla, Tex.....	2,880	1952-
Ayish Bayou at San Augustine, Tex.....	17.2	1924-25.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

** Discharge measurements only at regular intervals.

a/ Approximately.

Gaging station	Drainage area (sq mi)	Period of record
Neches River basin--Continued		
Angelina River at Morger, Tex.....	3,435	1928-51.
Dam B. Reservoir at Town Bluff, Tex.....	7,407	1951- †
Neches River at Town Bluff, Tex.....	7,407	1948-
Neches River at Evadale, Tex.....	7,908	1904-6; 1923-
Village Creek near Kountze, Tex.....	837	1924-27; 1939-
Taylor Bayou basin		
Taylor Bayou near LaBelle, Tex.....	267	1952-
Hillebrandt Bayou at Lovell Lake, Tex.....	132	1952-
Trinity River basin		
West Fork Trinity River:		
Bridgeport Reservoir above Bridgeport, Tex.....	1,114	1932- †
West Fork Trinity River at Bridgeport, Tex.....	1,147	1915-30.
Big Sandy Creek near Bridgeport, Tex.....	332	1936-
West Fork Trinity River near Boyd, Tex.....	1,739	1947-
Eagle Mountain Reservoir above Fort Worth, Tex.....	1,974	1934- †
West Fork Trinity River at Lake Worth Dam, above Fort Worth, Tex.....	2,069	1923-34.
Clear Fork Trinity River near Aledo, Tex.....	246	1947-
Benbrook Reservoir near Benbrook, Tex.....	433	1952- †
Clear Fork Trinity River near Benbrook, Tex.....	435	1947-
Clear Fork Trinity River at Fort Worth, Tex.....	526	1924-
West Fork Trinity River at Fort Worth, Tex.....	2,627	1920-
Marine Creek at Fort Worth, Tex.....	16.8	1950-
Village Creek near Handley, Tex.....	126	1925-30.
West Fork Trinity River at Grand Prairie, Tex.....	3,070	1925-
Mountain Creek near Grand Prairie, Tex.....	273	1925-33.
Elm Fork Trinity River near Sanger, Tex.....	379	1949-
Isle du Bois Creek near Pilot Point, Tex.....	261	1949-
Clear Creek near Sanger, Tex.....	296	1949-
Elm Fork Trinity River near Denton, Tex.....	1,076	1923-27.
Lake Dallas near Lake Dallas, Tex.....	1,165	1928-
Elm Fork Trinity River near Lewisville, Tex.....	1,671	1949-
Denton Creek near Justin, Tex.....	409	1949-
Denton Creek near Roanoke, Tex.....	621	1923-27; 1939-55.
Grapevine Reservoir near Grapevine, Tex.....	694	1952- †
Denton Creek near Grapevine, Tex.....	694	1947-
Elm Fork Trinity River near Carrollton, Tex.....	2,534	1923-
Elm Fork Trinity River near Dallas, Tex.....	2,577	1920-28.
Turtle Creek at Dallas, Tex.....	7.98	1948-51*; 1951-
Trinity River at Dallas, Tex.....	6,120	1898-99*; 1903-6; 1907-20†; 1920-
East Fork Trinity River:		
Honey Creek:		
Honey Creek subwatershed No. 11 near McKinney, Tex.	2.14	1952- †
Honey Creek subwatershed No. 12 near McKinney, Tex.	1.26	1952- †
Honey Creek near McKinney, Tex.....	39.0	1951-
East Fork Trinity River near McKinney, Tex.....	188	1949-
East Fork Trinity River above Pilot Grove Creek, near Lavon, Tex.....	324	1949-53.
Pilot Grove Creek:		
Sister Grove Creek near Princeton, Tex.....	115	1949-
Lavon Reservoir near Lavon, Tex.....	777	1953-
East Fork Trinity River near Lavon, Tex.....	779	1953-
East Fork Trinity River near Rockwall, Tex.....	840	1923-
East Fork Trinity River near Crandall, Tex.....	1,257	1949-
Trinity River near Rosser, Tex.....	8,162	1924; 1924-25*; 1938-
Cedar Creek near Mabank, Tex.....	734	1938-
Chambers Creek near Emhouse, Tex.....	818	1924-25.
Chambers Creek near Corsicana, Tex.....	971	1939-
Richland Creek near Richland, Tex.....	737	1924-25*; 1939-
Trinity River near Oakwood, Tex.....	12,912	1905-23†; 1923-
Trinity River near Midway, Tex.....	14,484	1939-
Trinity River at Riverside, Tex.....	15,619	1903-6; 1923-
Trinity River at Romayor, Tex.....	17,192	1924-
Trinity River at Liberty, Tex.....	17,539	1938-40*; 1940- †
Trinity River seepage investigations.....	-	1953.
San Jacinto River basin		
West Fork San Jacinto River near Conroe, Tex.....	832	1924-27; 1939-
Spring Creek near Spring, Tex.....	400	1939-
Cypress Creek near Westfield, Tex.....	262	1944-
West Fork San Jacinto River (San Jacinto River) near Humble, Tex.....	1,811	1928-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
San Jacinto River basin--Continued		
West Fork San Jacinto River--Continued		
East Fork San Jacinto River near Cleveland, Tex.....	330	1939-
Peach Creek at Splendora, Tex.....	120	1943-
Caney Creek near Splendora, Tex.....	104	1944-
San Jacinto River near Huffman, Tex.....	2,791	1936-54.
Lake Houston near Sheldon, Tex.....	-	1954-†
San Jacinto River:		
Buffalo Bayou:		
Barker Reservoir (at dam) near Addicks, Tex.....	150	1945-†‡
South Mayde Creek:		
Addicks Reservoir near Addicks, Tex.....	129	1948-†‡
Buffalo Bayou near Addicks, Tex.....	310	1945-
Buffalo Bayou at Houston, Tex.....	362	1936-
Whiteoak Bayou at Houston, Tex.....	92.0	1936-
Brays Bayou at Houston, Tex.....	100	1936-
Sims Bayou at Houston, Tex.....	64.0	1952-
Greens Bayou near Houston, Tex.....	67.5	1952-
Halls Bayou at Houston, Tex.....	26.2	1952-
Clear Creek basin		
Clear Creek near Pearland, Tex.....	-	1944‡; 1946‡; 1947-
Hickory Slough near Pearland, Tex.....	-	1944‡; 1946‡; 1947‡; 1948-49.
Chocolate Bayou basin		
Chocolate Bayou near Alvin, Tex.....	-	1944‡; 1946‡; 1947-
Bastrop Bayou basin		
Bastrop Bayou:		
Austin Bayou near Danbury, Tex.....	-	1944‡; 1946‡; 1947‡.
Oyster Creek basin		
Oyster Creek near Angleton, Tex.....	-	1944-
Brazos River basin		
Double Mountain Fork Brazos River at Lubbock, Tex.....	-	1939-49.
Double Mountain Fork Brazos River near Rotan, Tex.....	a/b/7,740	1949-51.
Double Mountain Fork Brazos River near Aspermont, Tex....	a/b/7,980	1923-34; 1939-
Salt Fork Brazos River:		
White River at Plainview, Tex.....	-	1939-49.
Salt Fork Brazos River near Peacock, Tex.....	a/c/4,260	1949-51.
Salt Fork Brazos River near Aspermont, Tex.....	a/c/4,830	1923-25; 1939-
Brazos River at Seymour, Tex.....	a/d/14,490	1923-
Brazos River near Graham, Tex.....	a/d/15,730	1915-20.
Clear Fork Brazos River:		
Elm Creek:		
Fort Phantom Hill Reservoir near Nugent, Tex.....	478	1940-†
Clear Fork Brazos River at Nugent, Tex.....	2,220	1924-
Paint Creek:		
Lake Stamford near Haskell, Tex.....	-	1954-†
Paint Creek near Haskell, Tex.....	879	1949-51.
Clear Fork Brazos River at Fort Griffin, Tex.....	3,974	1923-
Clear Fork Brazos River at Crystal Falls, Tex.....	4,323	1921-29.
Hubbard Creek near Breckenridge, Tex.....	1,087	1955-
Clear Fork Brazos River near Crystal Falls, Tex.....	5,658	1928-51.
Clear Fork Brazos River near Eliasville, Tex.....	5,740	1915-20; 1923-25.
Brazos River near South Bend, Tex.....	a/d/21,600	1938-
Possum Kingdom Reservoir near Graford, Tex.....	a/d/22,550	1941-†
Brazos River near Palo Pinto, Tex.....	a/d/22,760	1933-
Brazos River near Mineral Wells, Tex.....	a/d/23,150	1924-33.
Brazos River at Brazos, Tex.....	a/d/23,260	1914-20.
Palo Pinto Creek near Santo, Tex.....	567	1924-25; 1951-
Brazos River near Glen Rose, Tex.....	a/d/24,840	1923-
Paluxy Creek at Glen Rose, Tex.....	399	1923-25; 1947-
Nolands River at Blum, Tex.....	275	1924-25; 1947-
Whitney Reservoir near Whitney, Tex.....	a/d/26,170	1951-†
Brazos River near Whitney, Tex.....	a/d/26,190	1938-
Aquilla Creek near Aquilla, Tex.....	309	1924-25; 1938-
North Bosque River (head of Bosque River):		
Green Creek:		
Green Creek subwatershed No. 1 near Dublin, Tex.....	3.56	1955-†
Green Creek near Alexander, Tex.....	45.5	1954-
North Bosque River near Clifton, Tex.....	974	1923-
South Bosque River near Speegleville, Tex.....	388	1924-30.
Lake Waco near Waco, Tex.....	-	1931-32*.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

b/ 6,470 sq mi probably noncontributing.

c/ 2,770 sq mi probably noncontributing.

d/ 9,240 sq mi probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Brazos River basin--Continued</u>		
Brazos River at Waco, Tex.....	a/d/28,500	1898-1911; 1912-14†; 1914-1954- ‡
Cow Bayou at Mooreville, Tex.....	-	1938-52.
Brazos River near Marlin, Tex.....	a/d/29,150	1934-56.
Deer Creek at Chilton, Tex.....	81.8	
Leon River (head of Little River):		
Leon Reservoir near Ranger, Tex.....	-	1955- †
Leon River near Eastland, Tex.....	279	1950-53.
Leon River near Hasse, Tex.....	1,276	1939-
Leon River near Hamilton, Tex.....	1,895	1925-31.
Leon River at Gatesville, Tex.....	2,313	1950-
Cowhouse Creek near Pidcoke, Tex.....	475	1950-
Cowhouse Creek near Killeen, Tex.....	650	1924-25; 1939-42.
Belton Reservoir near Belton, Tex.....	3,533	1954- †
Leon River near Belton, Tex.....	3,547	1923-
Leon River seepage investigation.....	-	1951.
Lampasas River:		
Sulphur Creek seepage investigation.....	-	1942.
Lampasas River at Youngsfort, Tex.....	1,242	1924-
Little River near Little River, Tex.....	5,253	1923-29.
San Gabriel River at Georgetown, Tex.....	415	1924-25; 1934-
San Gabriel River at Circleville, Tex.....	602	1924-34.
Brushy Creek at Coupland, Tex.....	198	1924-26.
Little River at Cameron, Tex.....	7,034	1916-
Big Elm Creek near Temple, Tex.....	68.5	1934-36.
Big Elm Creek near Buckholts, Tex.....	166	1934-36.
North Elm Creek near Ben Arnold, Tex.....	30.3	1934-36.
Brazos River at Valley Junction (Lewis) Tex.....	-	1898-99*.
Brazos River near Bryan, Tex.....	a/d/38,430	1925-
Brazos River near College Station, Tex.....	a/d/38,530	1918-25.
Yegua Creek near Somerville, Tex.....	990	1924-
Navasota River near Easterly, Tex.....	949	1924-
Navasota River near Bryan, Tex.....	1,439	1951-
Brazos River near Hempstead, Tex.....	a/d/42,670	1938-
Brazos River near San Felipe, Tex.....	a/d/43,690	1938-45; 1945- *
American Canal Co.'s Canal (Brazos Valley Irrigation Co.'s Canal) near Pulshear, Tex.....	-	1931-54.
Brazos River at Rosenberg, Tex.....	a/d/44,020	1922-31.
Richmond Irrigation Co.'s Canal near Richmond, Tex.....	-	1931-54.
Brazos River at Richmond, Tex.....	a/d/44,050	1903-6; 1931-
Brazos River near Juliff, Tex.....	a/d/44,130	1949-
Big Creek near Needville, Tex.....	37.6	1947-50; 1952-
Fairchild Creek near Needville, Tex.....	24.9	1947-54.
Big Creek near Guy, Tex.....	112	1947-50.
Dry Creek near Richmond, Tex.....	10.3	1947-50.
Brazos River at East Columbia, Tex.....	a/d/44,540	1938-39*; 1939-40*; 1940-41*; 1942-49*; 1949-54*.
<u>San Bernard River basin</u>		
San Bernard River near Boling, Tex.....	a/720	1954-
<u>Colorado River basin</u>		
<u>Colorado River:</u>		
Lake J. B. Thomas near Vincent, Tex.....	-	1953-
<u>Colorado River:</u>		
Bull Creek near Ira, Tex.....	a/388	1947-53.
Bluff Creek near Ira, Tex.....	a/38.0	1947-
Colorado River near Ira, Tex.....	a/e/3,617	1947-52.
Deep Creek near Snyder, Tex.....	120	1923-25.
Deep Creek near Dunn, Tex.....	178	1953-
Colorado River at Colorado City (Colorado), Tex.....	a/e/4,082	1923-25; 1946-
Morgan Creek near Westbrook, Tex.....	-	1954-
Graze Creek near Westbrook, Tex.....	-	1954-
Morgan Creek near Colorado City, Tex.....	262	1947-49.
Lake Colorado City near Colorado City, Tex.....	267	1950- †
Champlin Creek near Colorado City, Tex.....	158	1947-
Colorado River at Robert Lee, Tex.....	a/f/15,770	1939-
Colorado River near Robert Lee, Tex.....	a/f/15,860	1923-27.
Colorado River near Bronte, Tex.....	a/f/15,940	1915-18; 1918-20*.
Oak Creek near Blackwell, Tex.....	209	1949-51.
Oak Creek Reservoir near Blackwell, Tex.....	222	1953- †

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

d/ 9,240 sq mi probably noncontributing.

e/ 2,590 sq mi probably noncontributing.

f/ 11,600 sq mi probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River basin--Continued		
Colorado River at Ballinger, Tex.....	a/f/16,840	1907-15†; 1915-
Elm Creek at Ballinger, Tex.....	458	1932-
South Concho River:		
South Concho Irrigation Co.'s Canal at Christoval, Tex.....	-	1921††; 1930-38††; 1939-
South Concho River at Christoval, Tex.....	434	1930-
Middle Concho River near Tankersly, Tex.....	g/1,280	1930-
Middle Concho River seepage investigation.....	-	1918; 1925.
Spring Creek:		
Dove Creek:		
Dove Creek Springs near Knickerbocker, Tex.....	-	1944- ††
Dove Creek near Knickerbocker, Tex.....	-	1944-49.
Dove Creek seepage investigation.....	-	1925.
Spring Creek near Tankersly, Tex.....	734	1930-
Spring Creek seepage investigation.....	-	1918; 1925.
Lake Nasworthy near San Angelo, Tex.....	g/2,659	1930- †
South Concho River at San Angelo, Tex.....	g/2,687	1931-53.
South Concho River seepage investigation.....	-	1918; 1925.
North Concho River at Sterling City, Tex.....	h/690	1939-
North Concho River near Carlsbad, Tex.....	i/1,529	1924-
San Angelo Reservoir at San Angelo, Tex.....	i/1,790	1952-
North Concho River at San Angelo, Tex.....	i/1,795	1915-31; 1947-
North Concho River seepage investigation.....	-	1918; 1925.
Concho River near San Angelo, Tex.....	j/4,492	1915-
Concho River near Paint Rock, Tex.....	j/5,538	1915-
Concho River seepage investigations.....	-	1918; 1925.
Mukewater Creek at Trickham, Tex.....	70.4	1951-
Colorado River at Winchell, Tex.....	a/k/24,580	1939-
Colorado River near Milburn, Tex.....	a/k/24,600	1923-34.
Deep Creek:		
Deep Creek subwatershed No. 3 near Placid, Tex.....	3.42	1953- †
Deep Creek near Mercury, Tex.....	43.9	1953-
Deep Creek subwatershed No. 8 (Dry Prong Deep Creek) near Mercury, Tex.....	4.32	1952- †
Dry Prong Deep Creek near Mercury, Tex.....	8.31	1951-
Pecan Bayou:		
Jim Ned Creek:		
Hords Creek Reservoir near Valera, Tex.....	a/48	1948- †
Hords Creek near Valera, Tex.....	a/53	1947-
Hords Creek at Coleman, Tex.....	107	1940-
Brownwood Reservoir near Brownwood, Tex.....	1,535	1933-41†; 1944- †
Brown County Water Improvement District No. 1 Canal near Brownwood, Tex.....	-	1950-
Pecan Bayou at Brownwood, Tex.....	1,614	1917-18; 1923-
San Saba River:		
Noyes Canal at Menard, Tex.....	-	1924-
San Saba River at Menard, Tex.....	1,151	1915-
Brady Creek at Brady, Tex.....	575	1939-
San Saba River near San Saba, Tex.....	3,038	1904-6; 1915-30.
San Saba River at San Saba, Tex.....	3,046	1930-
San Saba River seepage investigation.....	-	1918; 1933; 1940.
Colorado River near San Saba (Chadwick), Tex.....	a/k/30,600	1915-22; 1930-
Colorado River near Tow, Tex.....	a/k/31,120	1923-34.
Buchanan Reservoir near Burnet, Tex.....	a/k/31,250	1937- †
North Llano River near Junction, Tex.....	914	1915-
North Llano River seepage investigation.....	-	1925.
South Llano River seepage investigation.....	-	1918; 1925.
Llano River near Junction, Tex.....	1,874	1915-
Johnson Fork Llano River seepage investigation.....	-	1925.
Llano River near Castell, Tex.....	3,747	1923-39.
Llano River at Llano, Tex.....	4,233	1939-
Llano River seepage investigation.....	-	1918; 1925; 1954.
Colorado River at Marble Falls, Tex.....	a/k/36,353	1916-26.
Pedernales River at Stonewall, Tex.....	647	1924-34.
Pedernales River near Johnson City, Tex.....	947	1939-

† Monthly figures of discharge or contents only.

†† Discharge measurements only at regular intervals.

a/ Approximately.

f/ 11,600 sq mi probably noncontributing.

g/ 152 sq mi probably noncontributing.

h/ 75 sq mi probably noncontributing.

i/ 123 sq mi probably noncontributing.

j/ 275 sq mi probably noncontributing.

k/ 11,900 sq mi probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Colorado River basin--Continued</u>		
Pedernales River near Spicewood, Tex.....	1,294	1923-39.
Lake Travis (Marshall Ford Reservoir) near Austin, Tex.....	a/k/38,130	1940- †
Colorado River at dam above Austin, Tex.....	a/k/38,235	1895-98.
<u>Barton Creek:</u>		
Barton Springs at Austin, Tex.....	-	1894- **
Mill Spring at Austin, Tex.....	-	1900**; 1902-4**; 1919**; 1921-26**; 1928- **
Barton Creek (below Barton Springs) at Austin, Tex.....	m/125	1917-18.
Waller Creek at 38th St., Austin, Tex.....	2.09	1955-
Waller Creek at 23rd St., Austin, Tex.....	3.87	1954-
Colorado River at Austin, Tex.....	a/k/38,397	1898-
<u>Walnut Creek:</u>		
Little Walnut Creek near Austin, Tex.....	12	1924-26.
Onion Creek near Del Valle, Tex.....	337	1924-30.
Colorado River at Smithville, Tex.....	a/k/39,880	1930-
Dry Creek at Buescher Lake, near Smithville, Tex.....	1.48	1939-
Colorado River at La Grange, Tex.....	a/k/40,430	1938-55.
Colorado River at Columbus, Tex.....	a/k/41,070	1903*; 1904-11; 1916-30; 1939-
Colorado River near Eagle Lake, Tex.....	a/k/41,170	1930-39.
Colorado River at Wharton, Tex.....	a/k/41,380	1916-25; 1938-
Colorado River near Bay City, Tex.....	a/k/41,650	1948-
Colorado River seepage investigation.....	-	1918; 1925.
<u>Lavaca River basin</u>		
Lavaca River at Hallettsville, Tex.....	101	1939-
Lavaca River near Edna, Tex.....	887	1938-
Lavaca River seepage investigation.....	-	1948.
Navidad River near Ganado, Tex.....	1,116	1939-
<u>Guadalupe River basin</u>		
Guadalupe River at Hunt, Tex.....	276	1941-49.
Johnson Creek near Ingram, Tex.....	115	1941-
Guadalupe River near Comfort, Tex.....	762	1917-32.
Guadalupe River at Comfort, Tex.....	835	1939-
Guadalupe River near Spring Branch, Tex.....	1,282	1922-
Hueco Springs near New Braunfels, Tex.....	-	1944- **
Guadalupe River above Comal River, at New Braunfels, Tex.	1,516	1927-
Comal River at New Braunfels, Tex.....	m/94	1882-1927**; 1927-
Guadalupe River at New Braunfels, Tex.....	1,624	1898-99; 1915-27.
<u>San Marcos River:</u>		
San Marcos Springs at San Marcos, Tex.....	-	1921- **
San Marcos River at San Marcos, Tex.....	m/40	1915-21.
Blanco River at Wimberley, Tex.....	364	1924-26; 1928-
Blanco River seepage investigations.....	-	1924; 1955.
San Marcos River at Luling, Tex.....	833	1939-
Plum Creek near Lockhart, Tex.....	184	1925-30.
Plum Creek near Luling, Tex.....	356	1930-
San Marcos River at Ottine, Tex.....	1,249	1915-43.
Guadalupe River near Gonzales, Tex.....	3,453	1915-22.
Peach Creek near Dilworth, Tex.....	445	1930-33.
Sandies Creek near Westhoff, Tex.....	493	1930-34.
Guadalupe River near Cuero, Tex.....	4,870	1902-6; 1915-16.
Guadalupe River below Cuero, Tex.....	4,923	1916-35.
Guadalupe River at Victoria, Tex.....	5,161	1934-
Coleta Creek near Schroeder, Tex.....	365	1930-33; 1955-
Coleta Creek near Victoria, Tex.....	514	1939-55.
San Antonio River at San Antonio, Tex.....	a/m/42	1915-29; 1939-
San Pedro Creek at San Antonio, Tex.....	2.54	1916-29.
Medina River near Pipe Creek, Tex.....	457	1922-34; 1952-
Medina Reservoir (Lake) near San Antonio, Tex.....	609	1913- †
Medina Canal near Riomedina, Tex.....	-	1922-34.
Medina River near Riomedina, Tex.....	623	1922-34; 1953-
Medina River seepage past station near Riomedina, Tex.....	-	1922-34.
Medina River near San Antonio, Tex.....	1,225	1939-
Medina River seepage investigations.....	-	1925; 1929-30; 1955.
Calaveras Creek near Elmendorf, Tex.....	77.2	1954-
San Antonio River at Calaveras, Tex.....	1,786	1918-25.
San Antonio River near Falls City, Tex.....	2,071	1925-
Cibolo Creek near Bulverde, Tex.....	198	1946-
Cibolo Creek above Bracken, Tex.....	251	1946-51.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** Discharge measurements only at regular intervals.

a/ Approximately.

k/ 11,900 sq mi probably noncontributing.

m/ Normal flow of stream comes from springs; drainage area not applicable.

<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Guadalupe River basin--Continued		
San Antonio River--Continued		
Cibolo Creek at Selma, Tex.....	280	1946-
Cibolo Creek at Sutherland Springs, Tex.....	665	1924-29.
Cibolo Creek near Falls City, Tex.....	831	1930-
Cibolo Creek seepage investigation.....	-	1949.
Escondido Creek:		
Escondido Creek subwatershed No. 1 near Kenedy, Tex.....	3.29	1954- †
Escondido Creek at Kenedy, Tex.....	82.2	1954-
Dry Escondido Creek near Kenedy, Tex.....	9.43	1954-
San Antonio River at Goliad, Tex.....	3,918	1924-29; 1939-
Guadalupe River seepage investigations.....	-	1928; 1929; 1955.
Mission River basin		
Mission River at Refugio, Tex.....	643	1939-
Nueces River basin		
Nueces River at Laguna, Tex.....	764	1923-
West Nueces River near Brackettville, Tex.....	700	1939-50.
West Nueces River seepage investigations.....	-	1941; 1955.
Nueces River near Uvalde, Tex.....	1,930	1927-39.
Nueces River below Uvalde, Tex.....	1,947	1939-
Nueces River near Cinonia, Tex.....	2,151	1915-25.
Nueces River near Asherton, Tex.....	4,082	1939-
Nueces River near Cotulla, Tex.....	5,030	1915-18.
Nueces River at Cotulla, Tex.....	5,260	1923-
Nueces River near Tilden, Tex.....	6,192	1942-
Frio River at Concan, Tex.....	405	1923-
Frio River at Knippa, Tex.....	468	1952-53.
Dry Frio River near Reagan Wells, Tex.....	117	1952-
Dry Frio River at Knippa, Tex.....	179	1952-53.
Dry Frio River seepage investigations.....	-	1925; 1955.
Frio River below Dry Frio River, near Uvalde, Tex.....	661	1953-
Sabinal River near Sabinal, Tex.....	206	1942-
Sabinal River at Sabinal, Tex.....	247	1952-
Sabinal River seepage investigations.....	-	1934; 1942; 1955.
Blanco Creek seepage investigation.....	-	1955.
Hondo Creek near Tarpley, Tex.....	86.2	1952-
Hondo Creek near Hondo, Tex.....	132	1952-
Hondo Creek seepage investigation.....	-	1955.
Verde Creek seepage investigation.....	-	1955.
Seco Creek near Utopia, Tex.....	53.2	1952-
Seco Creek near D'Hanis, Tex.....	87.4	1952-
Seco Creek seepage investigation.....	-	1955.
Frio River near Frio Town, Tex.....	1,465	1924-27.
Leona River:		
Leona River spring flow near Uvalde, Tex.....	-	1939-
Leona River near Divot, Tex.....	565	1924-29.
Leona River seepage investigations.....	-	1925; 1931-32; 1934; 1939; 1946-47.
Frio River near Derby, Tex.....	3,493	1915-
Frio Lake outlet near Fowlerton, Tex.....	-	1915-19.
Frio River at Fowlerton, Tex.....	4,224	1915-19.
Frio River at Calliham, Tex.....	5,491	1924-26; 1932-
Atascosa River near McCoy, Tex.....	530	1951-
Atascosa River at Whitsett, Tex.....	1,171	1924-26; 1932-
Atascosa River seepage investigation.....	-	1951.
Frio River at Three Rivers, Tex.....	7,031	1915.
Frio River seepage investigations.....	-	1925; 1931; 1932; 1955.
Nueces River near Three Rivers, Tex.....	15,600	1915-
Lake Corpus Christi near Mathis, Tex.....	16,656	1942- †
Nueces River near Mathis, Tex.....	16,660	1939-
Nueces River at Calallen, Tex.....	16,920	1915-18; 1918-50*.
Nueces River seepage investigations.....	-	1924-25; 1931-33; 1939-40; 1948; 1955.
Rio Grande basin		
Rio Grande:		
Weminuche Creek:		
Raber-Lohr ditch at Weminuche Pass, Colo.....	-	1936- †n/
Fuchs ditch at Weminuche Pass, Colo.....	-	1936- †n/
Rio Grande at Thirtymile Bridge, near Creede, Colo.....	163	1909-13; (1913-23; 1925-33)o/; 1933-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

n/ Records prior to October 1947 published in WSP 1313.

o/ In reports of State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin---Continued		
Little Squaw Creek:		
Squaw Pass ditch at Squaw Pass, Colo.....	-	1937- <u>tn</u> /
Clear Creek below Continental Reservoir, Colo.....	51.7	(1929-33) <u>o</u> /; 1933-
Big Spring Gulch (Corral Creek):		
Tabor ditch at Spring Creek Pass, Colo.....	-	1927- <u>tn</u> /
Clear Creek near Creede, Colo.....	-	1910.
South River:		
Piedra Pass ditch (Harley Fuchs ditches 1 and 2) at Piedra Pass, Colo.....	-	1939- <u>tn</u> /
Willow Creek at Creede, Colo.....	35.3	1951-
Rio Grande at Wason, below Creede, Colo.....	705	1907-13; (1913-33) <u>o</u> /; 1933-54.
Rio Grande at Wagonwheel Gap, Colo.....	780	1951-
Goose Creek near Wagonwheel Gap, Colo.....	53.6	1924-26; 1939-52.
Goose Creek at Wagonwheel Gap, Colo.....	<u>a</u> /90	1954-
South Fork Rio Grande:		
Treasure Pass ditch at Wolf Creek Pass, Colo.....	-	1928- <u>tn</u> /
South Fork Rio Grande at South Fork, Colo.....	216	1910-13; (1913-22) <u>o</u> /; 1936-
Rio Grande near Del Norte, Colo.....	<u>a</u> /1,320	1899-1906; 1908-13; (1913-33) <u>o</u> /; 1933-
Pinos Creek near Del Norte, Colo.....	<u>a</u> /53	(1919-24) <u>o</u> /; 1936-
San Francisco Creek near Del Norte, Colo.....	13.1	1936-42.
Rio Grande near Monte Vista, Colo.....	<u>a</u> /1,590	(1926-33) <u>o</u> /; 1933-
Empire Canal below Bowen drain crossing, near Alamosa, Colo.....	-	1936.
Bowen drain below Empire Canal crossing, near Alamosa, Colo.....	-	1936.
Rio Grande at Alamosa, Colo.....	<u>a</u> /1,710	1912-13; (1913-33) <u>o</u> /; 1933-
Rock Creek near Monte Vista, Colo.....	33.6	(1919-24) <u>o</u> /; 1935-55.
Rock Creek near Alamosa, Colo.....	-	1936.
Closed basin in San Luis Valley, Colo:		
San Luis Creek at Villa Grove, Colo.....	-	1911-12.
San Luis Creek near Villa Grove, Colo.....	-	1910; (1911-12; 1922-26) <u>o</u> /.
Kerber Creek at Ashley Ranch, near Villa Grove, Colo.	<u>a</u> /38	(1923-26) <u>o</u> /; 1936-
Kerber Creek near Villa Grove, Colo.....	<u>a</u> /80	1911-12; (1923-26) <u>o</u> /.
Kerber Creek below (near) Villa Grove, Colo.....	-	(1922) <u>o</u> /.
Saguache Creek near Saguache, Colo.....	595	1910-12; (1914-33) <u>o</u> /; 1933-
North Crestone Creek near Crestone, Colo.....	10.7	1936-
South Crestone Creek near Crestone, Colo.....	-	(1915) <u>o</u> /; 1936.
Willow Creek near Crestone, Colo.....	-	(1915) <u>o</u> /; 1936.
Spanish Creek near Crestone, Colo.....	-	(1915) <u>o</u> /; 1936.
Cottonwood Creek near Crestone, Colo.....	-	(1915) <u>o</u> /; 1936.
Deadman Creek near Crestone, Colo.....	-	(1915) <u>o</u> /; 1936.
Carnero Creek near La Garita, Colo.....	117	(1919-33) <u>o</u> /; 1933-
La Garita Creek near La Garita, Colo.....	<u>a</u> /61	(1919-33) <u>o</u> /; 1933-
North lateral Farmers Union ditch near Hooper, Colo..	-	1936.
Farmers Union drain near Hooper, Colo.....	-	1936.
Arena (Sand) Creek near Crestone, Colo.....	-	1936.
Big Spring Creek near Hooper, Colo.....	-	1947-50.
Little Spring Creek near Hooper, Colo.....	-	1947-50.
Prairie ditch near Mosca, Colo.....	-	1936.
North Zapato Creek near Blanca, Colo.....	-	1948-50.
Seepage and waste from Rio Grande into closed basin..	-	1936.
Alamosa Creek at Jasper, Colo.....	<u>a</u> /64	1931-33.
Alamosa Creek above Terrace Reservoir (Rio Alamosa near Monte Vista), Colo.....	107	1911-12; (1915-19; 1923-27) <u>o</u> /; 1934-
Alamosa Creek below Terrace Reservoir (Rio Alamosa near La Jara), Colo.....	116	1909-12; (1915; 1917-20; 1923-33) <u>o</u> /; 1933-55.
Alamosa Creek near Capulin, Colo.....	138	1936.
La Jara Creek at Gallegos Ranch, near Capulin, Colo....	<u>a</u> /98	(1916-17; 1919-23) <u>o</u> /; 1936-
La Jara Creek near Capulin, Colo.....	-	(1924-33) <u>o</u> /; 1933-35.
La Jara Creek below Empire Canal, near Sanford, Colo...	-	1936.
La Jara drain near Sanford, Colo.....	-	1936.
La Jara Creek at mouth near Alamosa, Colo.....	286	(1925-32) <u>o</u> /.
Rio Grande above mouth of Trinchera Creek, near La Sauses, Colo.....	<u>a</u> /p/5,740	1936-

† Monthly figures of discharge or contents only.

a/ Approximately.

n/ Records prior to October 1947 published in WSP 1313.

o/ In reports of State engineer of Colorado.

p/ Includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin--Continued		
Trinchera Creek above Turners Ranch, near Fort Garland, Colo.....	a/45	(1923-33)o/; 1933-
Trinchera Creek above Mountain Home Reservoir, near Fort Garland, Colo.....	a/61	(1923-33)o/; 1933-55.
Sangre de Cristo Creek near Fort Garland, Colo.....	187	(1916; 1923-33)o/; 1933-
Ute Creek at upper station, near Fort Garland, Colo.....	23.3	1936; 1939-41.
Ute Creek near Fort Garland, Colo.....	a/32	(1916; 1923-33)o/; 1933-
Sangre de Cristo Creek above Smith Reservoir, near Blanca, Colo.....	231	(1929-33)o/; 1933-34; 1936.
Trinchera Creek below Smith Reservoir, near Blanca, Colo.....	396	(1929-33)o/; 1933-
Trinchera Creek at mouth, near La Sauses, Colo.....	-	1936.
Platoro Reservoir at Platoro, Colo.....	a/40	1951-
Conejos River below Platoro Reservoir, Colo.....	a/40	1952-
Conejos River at Platoro, Colo.....	44.4	1937-54.
Conejos River at Counsellors Cabin, near Mogote, Colo..	211	1943-47.
Conejos River near Mogote, Colo.....	282	1899-1900; 1903-13; (1913-33)o/; 1933-
San Antonio River near Ortiz, Colo.....	-	1911*.
San Antonio River at Ortiz, Colo.....	110	(1915; 1919-20; 1924-33)o/; 1933-
Los Pinos River near Ortiz, Colo.....	167	(1914-20; 1924-33)o/; 1933-
San Antonio River at mouth, near Manassa, Colo.....	348	{ 1923-33 } o/; 1933-
Conejos River near La Sauses, Colo.....	887	{ 1921-33 } o/; 1933-
Culebra Creek (River) near Chama, Colo.....	-	{ 1924-26 } o/.
Culebra Creek (River) at San Luis, Colo.....	220	(1909)o/; 1910-11; (1911-19†)o/; 1933-
Culebra Creek below San Luis, Colo.....	255	1938-55.
Culebra Creek at mouth, near San Acacio, Colo.....	-	1936.
Rio Grande (at, and near Cenicero) near Lobatos, Colo.....	a/p/7,700	1899-1913; (1913-33)o/; 1933-
Rio Grande at Colorado - New Mexico State line.....	-	1953-
Costilla Creek above (reservoir near Costilla)		
Costilla Dam, N. Mex.....	a/26	1937-
Casias Creek near Costilla, N. Mex.....	a/19	1937-
Santistevan Creek near Costilla, N. Mex.....	a/2.5	1937-
Costilla Creek below (reservoir near Costilla)		
Costilla Dam, N. Mex.....	a/55	1937-
Costilla Creek near Amalia, N. Mex.....	a/140	1949-
Ute Creek near Amalia, N. Mex.....	a/12	1949-
Costilla Creek near Costilla, N. Mex.....	195	1936-
Acequia Madre at Costilla, N. Mex.....	-	1944- †
Mesa ditch near Garcia, Colo.....	-	1944- †
Middle ditch at Garcia, Colo.....	-	1944- †
Cordillera ditch at Garcia, Colo.....	-	1944- †
Cerro Canal at Costilla, N. Mex.....	-	1944- †
Association ditch at Costilla, N. Mex.....	-	1955- †
Cerro Canal near Jaroso, Colo.....	-	1944- †
New Mexico Branch Cerro Canal near Jaroso, Colo....	-	1944- †
Penasquito ditch at Costilla, N. Mex.....	-	1955- †
Costilla Creek below diversion dam, at Costilla, N. Mex.....	197	1952-
Costilla Creek at Garcia, Colo.....	a/200	1944-
Alire ditch at Garcia, Colo.....	-	1944- †
Eastdale No. 1 intake canal near Jaroso, Colo.....	-	1944- †
Costilla Creek (near mouth) near Jaroso, Colo.....	a/290	1912-13†; 1936; 1948-
Latir Creek near Cerro, N. Mex.....	a/10	1937-
Rio Grande near Cerro, N. Mex.....	a/p/8,440	1948-
Red River (Rio Colorado) near Red River, N. Mex.....	19.2	1940-55.
Red River (Rio Colorado) above Questa, N. Mex.....	-	1910-11*.
Red River (Rio Colorado) near (above) Questa, N. Mex...	112	1912-15†; (1915-24; 1924-25†; 1926-30)r/; 1930-
Cabresto Creek:		
Llano ditch near Questa, N. Mex.....	-	1943- †
Cabresto Creek near Questa, N. Mex.....	36.3	1943-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

o/ In reports of State engineer of Colorado.

p/ Includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.

q/ In Water Resources of Colorado, Colorado Water Conservation Board.

r/ In reports of State engineer of New Mexico.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin--Continued		
Red River (Rio Colorado) below Questa, N. Mex.....	a/180	1910-11*; 1912-15; (1915-24; 1924-25†; 1926-28)r/.
Red River at mouth near Questa, N. Mex.....	a/190	1950-
Rio Hondo near Valdez, N. Mex.....	a/38	1934-
Rio Hondo at Valdez, N. Mex.....	a/38	(1916-24; 1925-26†; 1926-30)r/; 1930-34.
Rio Hondo at (near) Arroyo Hondo, N. Mex.....	a/70	1910-12*; 1912-15; (1915-24; 1924-25†; 1926-28)r/; 1932-
Rio Pueblo de Taos (head of Rio Taos) near Taos, N. Mex.....	a/68	1911-16; 1940-51.
Acequia Madre at Taos, N. Mex.....	-	1940-41†
North channel of Rio Pueblo de Taos at Taos, N. Mex..	-	1936-41.
Rio Pueblo de Taos at Taos, N. Mex.....	-	1936-41.
Rio Lucero near (Taos) Arroyo Seco, N. Mex.....	a/17	1910*; 1911-15; 1916*; 1933-51.
Tenorio ditch near Arroyo Seco, N. Mex.....	-	1935-39; 1939-50†.
Rio Lucero diversions near Arroyo Seco, N. Mex.....	-	1932-33.
Indian ditch near Arroyo Seco, N. Mex.....	-	1934-39; 1939-50†.
Seco ditch near Arroyo Seco, N. Mex.....	-	1934-39; 1939-50†.
Juan Manuel ditch near Arroyo Seco, N. Mex.....	-	1935-39; 1939-50†.
Prado ditch near Arroyo Seco, N. Mex.....	-	1934-39; 1939-50†.
Rio Lucero below diversions, near Arroyo Seco, N. Mex.....	a/25	1934-41.
Rio Fernando de Taos near Taos, N. Mex.....	a/64	1910*; 1912-15; (1915-24; 1924-25†; 1926-28)r/.
Rio Grande del Rancho near Ranchos de Taos, N. Mex...	a/83	1952-
Rio (Pueblo de) Taos at Los Cordovas, N. Mex.....	359	1910-15; (1915-24; 1924-25†; 1926-30)r/; 1930-
Rio Grande below (at) Taos Junction Bridge, near Taos, N. Mex.....	a/p/9,730	(1925†; 1926-30)r/; 1930-
Arroyo Agua de la Petaca:		
Carson Reservoir near Carson (Stong), N. Mex.....	a/190	1940-†
Pueblo Creek (head of Embudo Creek):		
Picuris ditch near Penasco, N. Mex.....	-	1936-39; 1939-41†.
Pueblo Creek near Penasco, N. Mex.....	-	1936-41.
Rio Santa Barbara near Llano, N. Mex.....	a/38	1952-
Embudo Creek (Rio de Penasco) at Dixon, N. Mex.....	a/305	(1923-24; 1924-25†; 1926-30)r/; 1930-55.
Rio Grande at Embudo, N. Mex.....	a/p/10,400	1889-1903; 1912-16; (1916-30)r/; 1930-
Alcalde ditch at (Alcalde) Chamita, N. Mex.....	-	1936-39; 1939-41†.
San Rafael ditch at Alcalde, N. Mex.....	-	1936-39; 1939-41†.
Acequia Madre at Alcalde, N. Mex.....	-	1936-39; 1939-41†.
Rio Chama (Chama River) near (at) Chama, N. Mex.....	-	1912-16; 1917*.
Rio Brazos (Brazos River) near Brazos, N. Mex.....	-	1913-17.
Chavez Creek (Little Brazos River) near Brazos, N. Mex.....	-	1914-15†.
Rio Brazos (Brazos River) at Brazos, N. Mex.....	-	1912-13.
Rio Chama (Chama River) at Park View, N. Mex.....	405	1912-15; 1915-16*; (1924-30)r/; 1930-
Nutritas (Nutritus) Creek near Tierra Amarilla, N. Mex.....	-	1914-15*.
Willow Creek near Park View, N. Mex.....	193	1936-
El Vado Reservoir near Tierra Amarilla, N. Mex.....	873	1935-39; 1939-†
Rio Chama (Chama River at El Vado)(near Tierra Amarillo) below El Vado Dam, N. Mex.....	877	1913-16; (1920-24)r/; 1935-
Rio Nutrias (Nutrias Creek) near Cebolla, N. Mex.....	-	1914-15*.
Canjilon Creek (Horn River)(head of Arroyo Seco) near Canjilon, N. Mex.....	-	1911-12*; 1913; 1913-14†.
Rio Chama (Chama River) at Abiquiu, N. Mex.....	-	1895-97*.
Rio Chama near Abiquiu, N. Mex.....	a/2,170	1942-
El Rito (Creek) near El Rito, N. Mex.....	a/52	1931-51.
Rio Ojo Caliente:		
Rio Vallecitos at Vallecitos, N. Mex.....	-	1911-14.
Rio Ojo Caliente at La Madera, N. Mex.....	419	1932-
Chamita ditch near Chamita, N. Mex.....	-	1936-39; 1939-41†.
Rio Chama (Chama River) near (at) Chamita, N. Mex.....	a/3,200	1912-15; (1915-24; 1924-25†; 1926-30)r/; 1930-

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‡ Fragmentary record.

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p/ Includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.

r/ In reports of State engineer of New Mexico.

Gaging station	Drainage area (sq mi)	Period of record
Rio Grande basin--Continued		
Santa Clara ditch near Espanola, N. Mex.....	-	1936-39; 1939-41†.
Santa Cruz River (Rio Santa Cruz) at Cundiyo (above Chimayo), N. Mex.....	a/86	1930-
Santa Cruz River (Rio Santa Cruz) at Riverside, N. Mex.	103	1942-51.
Santa Clara Creek near Espanola, N. Mex.....	a/33	1936-41; 1949-50.
Hill Acequia at head, near Espanola, N. Mex.....	-	1940-41†.
Hill Acequia near Espanola, N. Mex.....	-	1940†.
Guachupangue ditch near Espanola, N. Mex. 1/.....	-	1936-39; 1939-41.
San Ildefonso ditch near Espanola, N. Mex.....	-	1939-41†.
Rio Nambe (Nambe Creek)(head of Pojoaque River):		
Nambe Canal near Nambe, N. Mex.....	-	1932-39; 1939-51†.
Rio Nambe (Nambe Creek) near Nambe, N. Mex.....	37.0	1932-51.
Pojoaque Creek (continuation of Rio Nambe):		
Llano Frio ditch near Nambe, N. Mex.....	-	1936-39; 1939-50†.
Llano ditch near Nambe, N. Mex.....	-	1936-39; 1939-50†.
Moises Pena ditch near Nambe, N. Mex.....	-	1936-38.
Mocha ditch at Nambe, N. Mex.....	-	1936-39; 1939-50†.
Comunidad ditch at Nambe, N. Mex.....	-	1936-39; 1939-50†.
Ortiz ditch at Nambe, N. Mex.....	-	1936-39; 1939-50†.
Canyon ditch near Nambe, N. Mex.....	-	1936-39; 1939-50†.
Acequia Rincon near Nambe, N. Mex.....	-	1936-39; 1939-50†.
Las Joyas ditch near Nambe, N. Mex.....	-	1936-39; 1939-50†.
Trujillo ditch near Nambe, N. Mex.....	-	1936-39; 1939-45†.
Barranco Alto ditch near Nambe, N. Mex.....	-	1936-39; 1939-50†.
Pojoaque (Nambe) Creek at Pojoaque Bridge, near Nambe, N. Mex.....	-	1936-41.
Jacona ditch near Nambe, N. Mex.....	-	1936-39.
Jacona ditch near San Ildefonso, N. Mex.....	-	1940-48†.
Tesuque Creek (Rio Tesuque) above diversions, near Santa Fe, N. Mex.....	a/11	1936-51.
Cajon Grande ditch near Santa Fe, N. Mex.....	-	1936-39; 1939-41†.
De La Cruz ditch near Santa Fe, N. Mex.....	-	1936-39; 1939-41†.
Acequia Madre near Santa Fe, N. Mex.....	-	1936-39; 1939-41†.
Acequia Madre at waste, near Santa Fe, N. Mex.....	-	1936-38.
Little Tesuque Creek (Rito Tesuque) near Santa Fe, N. Mex.....	a/8	1936-41.
Rio Tesuque at Tesuque, near Santa Fe, N. Mex.....	-	1938-41.
Acequia Medio (at head) near Santa Fe, N. Mex.....	-	1936-39; 1939-47†.
Acequia Medio at waste, near Santa Fe, N. Mex.....	-	1936-38.
Rio Tesuque at Tesuque Bridge, near Santa Fe, N. Mex.	-	1936-38.
Hubbard ditch near Santa Fe, N. Mex.....	-	1938-39; 1939-41†.
Mitchell ditch near Santa Fe, N. Mex.....	-	1936-39; 1939-51†.
Post ditch near Tesuque Pueblo, N. Mex.....	-	1936-39; 1939-41†.
Qwiyo ditch near Tesuque Pueblo, N. Mex.....	-	1936-39; 1939-41†.
Corral ditch near Tesuque Pueblo, N. Mex.....	-	1936-39; 1939-41†.
Pojoaque River:		
Acequia Indios (Del Barranco ditch) near San Ildefonso, N. Mex.....	-	1936-39; 1939-41†.
Acequia de la Otra Banda (De la Otro Banda ditch) near San Ildefonso, N. Mex.....	-	1936-39; 1939-41†.
El Rancho ditch (Rancho ditch) near San Ildefonso, N. Mex.....	-	1936-39; 1939-41†.
San Antonio (De Los Indios) ditch near San Ildefonso, N. Mex.....	-	1936-39; 1939-41†.
Well ditch near San Ildefonso, N. Mex.....	-	1938-39; 1939-51†.
Ortiz ditch at San Ildefonso, N. Mex.....	-	1936-39; 1939-41†.
Rio Grande (at Water Tank)(at Rio Grande)(near Buckman) at Otowi Bridge, near San Ildefonso, N. Mex.....	a/p/14,300	1895-1905; 1909-14; (1915-30)r/; 1930-
Cochiti east side main canal (at) near Cochiti, N. Mex.	-	1936-37; 1954-†
Sili main canal (at head at) near Cochiti, N. Mex.....	-	1936-39; 1954-†
Rio Grande at (near) Cochiti, N. Mex.....	a/p/14,600	(1925†; 1926-30)r/; 1930-
Santa Fe River (Creek) at Monument Rock, near Santa Fe, N. Mex.....	a/14	1910.
McClure Reservoir near Santa Fe, N. Mex.....	a/19	1947-†
Santa Fe River (Creek, above reservoir) near Santa Fe, N. Mex.....	a/20	1910†; 1913-14; (1915-24; 1924-25†; 1926-30)r/; 1930-

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* Fragmentary record.

a/ Approximately.

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r/ In reports of State engineer of New Mexico.

1/ During 1940-41 water year, ditch diverted from Hill Acequia.

Note:--Many stations on canals and drains in the Rio Grande basin between Cochiti diversion dam and San Marcial are not listed in this index. Records for those stations from 1930 to 1938 are published in WSP 858 and 878.

Gaging station	Drainage area (sq mi)	Period of record
Rio Grande basin--Continued		
Santa Fe River--Continued		
Nichols Reservoir near Santa Fe, N. Mex.....	a/24	1943- †
Santa Fe River (Creek) at Santa Fe, N. Mex.....	-	1907-10; 1911*.
Arroyo Hondo near Santa Fe, N. Mex.....	13.5	1913-14.
Galisteo Creek at Domingo, N. Mex.....	a/640	1941-
San Felipe east side acequia near Domingo, N. Mex.....	-	1936-39; 1939-41†.
Rio Grande at San Felipe, N. Mex.....	a/p/16,100	(1926-30)r/; 1930-
Rito San Antonio (San Antonio Creek) (head of Jemez River) near Los Alamos, N. Mex.....	-	1949-50.
Jemez River near Jemez Springs, N. Mex.....	-	1949-50.
East Fork Jemez River near Los Alamos, N. Mex.....	-	1949-50.
East Fork Jemez River near Jemez Springs, N. Mex.....	-	1949-50.
Jemez River below East Fork, near Jemez Springs, N. Mex.	194	1951-
Rio Las Vacas (head of Rio Guadalupe) near Cuba, N. Mex.....	-	1938-41.
Rio Cebolla near Jemez Springs, N. Mex.....	-	1939.
Rio Guadalupe at Box Canyon, near Jemez, N. Mex.....	226	1951-
Rio Guadalupe near Jemez Springs, N. Mex.....	-	1938-42; 1949-50.
Jemez River (Creek) near Jemez, N. Mex.....	492	1936-41; 1949-
Jemez east side ditch near Jemez, N. Mex.....	-	1936-39; 1939-41†.
Jemez west side ditch near Jemez, N. Mex.....	-	1936-39; 1939-41†.
Antonio Pecos ditch near Jemez, N. Mex.....	-	1936-39; 1939-41†.
San Ysidro ditch near San Ysidro, N. Mex.....	-	1936-39; 1939-41†.
Jemez River (Creek) at San Ysidro, N. Mex.....	-	1936-41.
Zia ditch near San Ysidro, N. Mex.....	-	1936-39; 1939-41†.
Zia Reservoir, N. Mex.....	a/2.4	1953- a/
Jemez River above Jemez Canyon Dam, N. Mex.....	961	1953-
Jemez Canyon Reservoir near Bernalillo, N. Mex.....	1,034	1953- †
Jemez River (Creek) (near Bernalillo) below Jemez Canyon Dam, N. Mex.....	a/1,040	1936-38; 1943-
Rio Grande near Bernalillo, N. Mex.....	a/p/17,300	1941-
Rio Grande at Albuquerque, N. Mex.....	a/p/17,440	1942-
Tijeras Arroyo (Creek) near Albuquerque, N. Mex.....	-	(1921)r/; 1943-49.
Rio Grande near (at) Isleta, N. Mex.....	a/p/17,750	(1925†; 1926-29)r/; 1936-38.
Rio Grande near Belen, N. Mex.....	a/p/18,230	1942-
Rio Grande near Bernardo, N. Mex.....	a/p/19,230	1936-39; 1941-
Rio Puerco:		
San Jose Creek:		
La Jara Creek near La Jara, N. Mex.....	-	1932-33.
Rio Puerco near Cabezon, N. Mex.....	a/360	1943-51.
Rio Puerco at Cabezon, N. Mex.....	397	1945-51.
Rio Puerco above Chico Arroyo, near Guadalupe, N. Mex..	a/420	1951-
Chico Arroyo:		
Torreón Arroyo:		
Cornfield Wash:		
Reservoir No. 5, N. Mex.....	1.62	1951- a/
Reservoir No. 6, N. Mex.....	2.62	1951- a/
Reservoir No. 7, N. Mex.....	1.20	1951- a/
Reservoir No. 4, N. Mex.....	1.42	1951- a/
Reservoir No. 3, N. Mex.....	.31	1951- a/
Reservoir No. 9, N. Mex.....	.17	1951- a/
Reservoir No. 13, N. Mex.....	.45	1951- a/
Reservoir No. 2, N. Mex.....	1.09	1951- a/
Reservoir No. 12, N. Mex.....	7.44	1951- a/
Reservoir No. 10, N. Mex.....	3.19	1951- a/
Reservoir No. 11, N. Mex.....	3.00	1951- a/
Reservoir No. 1, N. Mex.....	.39	1951- a/
Chico Arroyo near Guadalupe, N. Mex.....	a/1,390	1943-
Rio Puerco near Guadalupe, N. Mex.....	a/1,860	1943.
Bluewater Creek (head of San Jose River) below Bluewater Dam, N. Mex.....	215	1951-
Bluewater Creek near Bluewater, N. Mex.....	235	1912-14; (1915-19; 1921-24; 1924-25†; 1926-30)r/; 1930-

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a/ Approximately.

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s/ Storm runoff for summer season only (report in preparation).

Note:--Many stations on canals and drains in the Rio Grande basin between Cochiti diversion dam and San Marcial are not listed in this index. Records for these stations 1936-38 are published in WSP 858 and 878.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin--Continued		
Rio Puerco--Continued		
Bluewater Creek--Continued		
San Mateo Creek:		
San Mateo Reservoir at San Mateo, N. Mex.....	-	1939-43†.
Bluewater Creek at Grants, N. Mex.....	a/1,000	1913; 1914*; (1915-24; 1924-26†; 1926)r/; 1949-
San Jose River near Grants, N. Mex.....	a/1,090	1936-
McCartys south side ditch near San Fidel, N. Mex...	-	1940-42†; 1950-51†.
McCartys north side ditch near San Fidel, N. Mex...	-	1940-42†; 1950-51†.
Acomita Reservoir outlet (continuation of McCartys north side ditch) near San Fidel, N. Mex.....	-	1938-39; 1939-41†.
San Jose River near San Fidel, N. Mex.....	a/1,080	1936-42; 1950-51.
Seama-Paraje ditch near Casa Blanca, N. Mex.....	-	1937-39; 1939-41†.
Casa Blanca ditch at Casa Blanca, N. Mex.....	-	1937-39; 1939-41†.
New Laguna ditch:		
New Laguna ditch wasteway near Casa Blanca, N. Mex.....	-	1937-39; 1939-41†.
New Laguna ditch near New Laguna, N. Mex.....	-	1937-39; 1939-41†.
San Jose River near Casa Blanca, N. Mex.....	-	1936-41.
Encinal Creek near Casa Blanca, N. Mex.....	-	1936-39.
Laguna ditch at New Laguna, N. Mex.....	-	1936-39; 1939-41†.
Rio Paguete:		
Paguete Creek near Laguna, N. Mex.....	-	1936-41.
Paguete Reservoir outlet near Laguna, N. Mex.....	-	1940-41.
San Jose River near Laguna, N. Mex.....	-	1937-41.
Mesita ditch near Laguna, N. Mex.....	-	1936-39; 1939-41†.
San Jose River at Correo, N. Mex.....	a/2,610	1943-
San Jose River near Suwanee, N. Mex.....	-	1910; 1911*; 1912-14; (1915-17)r/.
Rio Puerco at Rio Puerco, N. Mex.....	a/5,160	1910-15*; 1913-14; (1915-24; 1924-25†; 1926-27)r/; 1934-
Rio Puerco near Bernardo (La Joya), N. Mex.....	a/5,860	1910-14*; 1939-
Rio Salado:		
Victorino Wash:		
Victorino Reservoir, N. Mex.....	10.1	1951- s/
Rio Salado near San Acacia, N. Mex.....	a/1,380	1947-
Socorro main canal north at San Acacia, N. Mex.....	-	1936-41; 1941- †
Rio Grande at San Acacia, N. Mex.....	a/p/26,770	(1925†; 1926-27*)r/; 1936-
Rio Grande at San Antonio, N. Mex.....	a/p/27,400	1951-
Socorro riverside drain:		
Socorro main canal south (at end) near San Antonio, N. Mex.....	-	1937-38; 1948-
San Antonio Riverside drain near San Antonio, N. Mex...	-	1936-38; 1948- †
Elmendorf interior drain near San Antonio, N. Mex...	-	1936-38†; 1948- †
San Antonio Riverside drain near San Marcial, N. Mex...	-	1948- †
Conveyance Channel (continuation of Rio Grande normal flow channel) below heading, near San Marcial, N. Mex.....	-	1953-
Rio Grande at (near) San Marcial, N. Mex.....	a/p/27,700	1895-
Conveyance Channel at mouth of Nogal Canyon, near Truth or Consequences, N. Mex.....	-	1953-
Rio Grande at the narrows, in Elephant Butte Reservoir, N. Mex.....	a/p/28,500	1951-
Alamosa River near Monticello, N. Mex.....	a/470	1931-42.
Elephant Butte Reservoir at Elephant Butte, N. Mex.....	a/p/28,900	(1924-39)†t/; 1940- †
Rio Grande below Elephant Butte Dam, N. Mex.....	a/p/28,900	(1915-16)†t/; 1916-
(Las) Palomas River near (Las) Palomas, N. Mex.....	166	(1931)r/.
Caballo Reservoir near Arrey, N. Mex.....	a/p/30,200	1938- †
Rio Grande below Caballo Dam, N. Mex.....	a/p/30,200	1938-
Rio Grande at Percha Dam, near Arrey, N. Mex.....	-	(1922-31)r/.
Rio Grande at Leasburg Dam, near Fort Selden, N. Mex.....	-	(1926-31)r/.
Rio Grande near El Paso, Tex.....	t/29,267	1889-93; (1894)t/; 1895-1931; (1932-)t/

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Note.--Many stations on canals and drains in the Rio Grande basin between Cochiti diversion dam and San Marcial are not listed in this index. Records for these stations 1936-38 are published in WSP 858 and 878.

Gaging station	Drainage area (sq mi)	Period of record
Rio Grande basin--Continued		
Diversions from Rio Grande into The American Canal at El Paso, Tex.....	-	(1938-)t/
Rio Grande below American Dam, Tex.....	t/29,271	(1938-)t/
Diversions from Rio Grande into Acequia Madre (Mexican Canal) near Juarez, Chih., Mex.....	-	(1938-)t/
Rio Grande at Cd. Juarez, Chih., Mex.....	t/29,359	(1938-)t/
Rio Grande at Island station, near El Paso, Tex.....	t/29,977	(1938-)t/
Rio Grande at Tornillo Bridge, near Fabens, Tex.....	-	(1924-27)t/; 1927-31; (1931-37)t/.
Diversions from the Rio Grande in El Paso Valley, Tex..	-	(1938-47)t/.
Tornillo Canal at wasteway, near Alamo Alto, Tex.....	-	(1930-31)u/; 1931-38.
Tornillo drain at mouth, at Alamo Alto, Tex.....	-	1931-38.
Hudspeth Canal at head, near Alamo Alto, Tex.....	-	(1930-31)u/; 1931-38.
Rio Grande at County Line station, near El Paso, Tex.....	t/30,648	(1938-)t/
Rio Grande near Fort Hancock, Tex.....	-	1900-1903.
Rio Grande below old Fort Quitman, near Finley, Tex.....	t/31,990	1923-31; (1931-)t/
Rio Grande at La Nutria, Tex.....	t/33,917	(1935-41)t/.
Rio Grande above Presidio, Tex. (upper Presidio station).	t/35,000	1900-1914; 1919-20; 1923-26; (1926-)t/
Diversions from Rio Grande between upper and lower Presidio stations, Tex.....	-	(1932-33)t/; (1934+)t/.
Rio Conchos at Cuchillo Parado, Chih. Mex.....	-	(1945-)t/
Rio Conchos near Ojinaga, Chih., Mex.....	t/22,600	(1900-1914; 1924-)t/
Rio Grande below Presidio, Tex. (lower Presidio station).	t/59,767	1900-1915; 1919-20; 1923-26; (1926-)t/
Alamita Creek near Presidio, Tex.....	t/1,504	(1932-)t/
Terlinqua Creek near Terlinqua, Tex.....	t/1,070	(1932-)t/
Rio Grande at Johnson Ranch, Tex.....	t/66,451	(1936-)t/
Rio Grande at Boquillas, Tex.....	t/70,657	1928-31; (1931-36)t/.
Rio Grande at special stations in the Big Bend, Tex.....	-	(1947-50)t/.
Rio Grande at Agua Verde dam site.....	-	(1953-)t/
Lozier Creek near Langtry, Tex.....	t/1,806	(1932-35)t/.
Rio Grande at Langtry, Tex.....	t/79,375	1900-1914; 1919-20; 1924-31; (1931-)t/
Pecos River near Cowles, N. Mex.....	-	1910-14; (1915-19)t/.
Pecos River (at Irwins ranch, near Cowles) near Pecos, N. Mex.....	189	(1919-24; 1924-25+; 1926-30)t/; 1930-
Pecos River near San Jose, N. Mex.....	539	1939-40.
Pecos River near Anton Chico, N. Mex.....	a/1,050	1910; 1911*; 1912-14; (1915-24; 1924-25+; 1926-30)t/; 1930-
South Fork Gallinas River near El Porvenir, N. Mex...	a/25	1911-14; (1915-20)t/.
Gallinas River (above Hot Springs) near (Las Vegas) Montezuma, N. Mex.....	a/84	(1915-24; 1924-25+; 1926-30)t/; 1930-
Gallinas River (near Las Vegas) at Montezuma, N. Mex.	a/87	1903-4*; 1904-14; (1915-24; 1924-25+; 1926-30)t/; 1930-
Storrie feeder canal near Las Vegas, N. Mex.....	-	1949-52+.
Gallinas River near Lourdes, N. Mex.....	313	1951-
Gallinas River near Colonias, N. Mex.....	a/610	1951-
Pecos River at Santa Rosa, N. Mex.....	a/2,650	1903-5*; 1906; 1910-14; (1915-24; 1924-25+; 1926-30)t/; 1930-
Pecos River near Puerto de Luna, N. Mex.....	a/3,970	1938-
Alamogordo Reservoir near (Guadalupe) Fort Sumner, N. Mex.....	a/4,390	1939- +
Pecos River (near Guadalupe) below Alamogordo Dam, N. Mex.....	a/4,390	1912-14; (1915-24; 1924-25+; 1926-30)t/; 1930-
Fort Sumner (Irrigation District canal) main canal (at) near Fort Sumner, N. Mex.....	-	1939-40+; 1954- +

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u/ In reports of State engineer of Texas.

Notes.—Many stations on canals and ditches in Pecos River basin between Pecos, N. Mex., and Malaga Bend are not included in this index; monthly records for these stations for 1939-40 are published in WSP 898.

Figures of drainage area shown for stations in the Pecos River basin represent the contributing area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin--Continued		
Pecos River near Fort Sumner, N. Mex.....	-	1904-10; 1912-13; (1921-23†)r/.
Pecos River near Acme, N. Mex.....	a/11,380	(1921-23†)r/; 1937- 1911*.
Rio Ruidoso (head of Rio Hondo) near Ruidoso, N. Mex.	-	1953-
Rio Ruidoso at Hollywood, N. Mex.....	a/120	1910-11*.
Rio Ruidoso near Glencoe, N. Mex.....	-	1930-55.
Rio Ruidoso at Hondo, N. Mex.....	307	(1908-9†)r/; 1930-31.
Rio Bonito (Bonito River) at Angus, N. Mex.....	a/34	(1908-9†)r/; 1930-31.
Rio Bonito (Bonito River) near (Fort Stanton) Lincoln, N. Mex.....	186	1930-55.
Rio Bonito at Hondo, N. Mex.....	306	1930-31.
Rio Hondo at Hondo, N. Mex.....	-	
Rio Hondo (Hondo River) at Diamond A Ranch, near Roswell, N. Mex.....	a/960	(1908-9†)r/; 1939-
Inlet Canal at Hondo Reservoir:		
Scour Gate No. 1 at Hondo Reservoir, near Roswell, N. Mex.....	-	1906.
Inlet (Hondo Reservoir inlet) Canal at Hondo Reservoir, near Roswell, N. Mex.....	-	1906-8*.
Taylor-Moore ditch near Roswell, N. Mex.....	-	1905.
Rio Hondo (Hondo River) at Hondo Reservoir site, near Roswell, N. Mex.....	-	1903-5*; 1906.
Rio Hondo (Hondo River) below reservoir outlet canal, near Roswell, N. Mex.....	-	1908*.
Rio Hondo at Roswell, N. Mex.....	-	1903-5*; 1906.
Pecos River near Roswell, N. Mex.....	-	1903-5*; 1906.
Rio Felix at old highway bridge, near Hagerman, N. Mex.....	932	1939-
Rio Felix near Hagerman, N. Mex.....	-	1932-39.
Pecos River near Lake Arthur, N. Mex.....	a/14,760	1938-
Cottonwood Creek near Lake Arthur, N. Mex.....	199	1932-
Pecos River near (Dayton) Artesia, N. Mex.....	a/15,300	1905-25; (1925†; 1926-31)r/; 1931-
Rio Penasco (Penasco River) at Elk, N. Mex.....	-	1910-11*.
Rio Penasco (Penasco River at Cleve's Ranch) near Elk, N. Mex.....	-	1911*.
Rio Penasco (Penasco River) at Y.O. Crossing, near Hope, N. Mex.....	a/730	(1921-24; 1924-25†; 1926-29)r/.
Rio Penasco at (near) Dayton, N. Mex.....	a/1,070	1951-
Rio Penasco (Penasco River) near Dayton, N. Mex.....	-	1905-6; 1906-8*.
Kaiser Lake-McMillan Channel near Lakewood, N. Mex.....	-	1950-
Lake McMillan:		
Four Mile Draw near Lakewood, N. Mex.....	265	1951-
Lake McMillan at Lakewood, N. Mex.....	a/16,990	1939-†
Pecos River below McMillan Dam (near Lakewood), N. Mex.	a/16,990	1906-9; 1910-11*; 1939-40; 1946-
Pecos River below Major Johnson Springs, near Carlsbad, N. Mex.....	-	1947-50.
Pecos River at dam site 3, near Carlsbad, N. Mex.....	a/17,620	1939-40; 1944-
Lake Avalon near Carlsbad, N. Mex.....	a/18,070	1939-†
Combined storage of Lakes McMillan and Avalon, near Carlsbad, N. Mex.....	-	(1924-†)t/
Carlsbad (project) main canal at head, near Carlsbad, N. Mex.....	-	1939-40†; 1951-†
Pecos River (at Avalon) below Avalon Dam, N. Mex.....	a/18,080	(1906-7; 1951- 1940.
Pecos River (3 miles) below Avalon Dam, N. Mex.....	a/18,080	1903-6; 1907-8*; 1914-25; (1925-28)r/; 1928-30; (1930-31)r/; 1931-
Pecos River at Carlsbad, N. Mex.....	18,100	1940; 1946-
Black River above Malaga, N. Mex.....	343	1914-15; 1939-40.
Black River (near) at Malaga, N. Mex.....	a/360	1920-25; (1925-31)r/; 1931-
Pecos River near Malaga, N. Mex.....	a/19,190	
Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.....	a/19,260	1938-41; 1951-

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Figures of drainage area shown for stations in Pecos River basin represent the contributing area.

<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin--Continued		
Pecos River at Red Bluff, N. Mex.....	a/19,540	1937-
Delaware River near Malaga, N. Mex.....	-	1912-13.
Delaware River near Red Bluff, N. Mex.....	689	1937-
Delaware River near Angeles, Tex.....	-	1914-15.
Pecos River near Angeles, Tex.....	a/20,540	1914-37.
Red Bluff Reservoir near Orla, Tex.....	a/20,720	1937- †
Seepage below east side of Red Bluff Dam, near Orla, Tex.....	-	1939-40.
Seepage below west side of Red Bluff Dam, near Orla, Tex.....	-	1939-40.
Salt (Screwbean) Draw near Orla, Tex.....	464	1939-40; 1943-
John Camp pump near Orla, Tex.....	-	1940.
Pecos River near Orla, Tex.....	a/21,300	1937-
Joe B. Neel pump near Riverton, Tex.....	-	1940.
M. R. Estes pump near Mentone, Tex.....	-	1940.
Pecos River near Porterville, Tex.....	-	1922-26.
Reeves County Water Improvement District No. 2 Canal near Mentone (Farmers Independent Canal near Porterville), Tex.....	-	1922-25; 1939-
Ward County Water Improvement District No. 3 Canal near Barstow, Tex.....	-	1939-
Cedarvale Canal near Barstow, Tex.....	-	1922-25.
Boxley canal near Barstow, Tex.....	-	1923-25.
Pecos River above Barstow (above Barstow Canal), Tex...	-	1916-21.
Margueretta flume near Pecos, Tex.....	-	1898; 1900-1907.
West Valley ditch near Pecos, Tex.....	-	1904.
Ward County Irrigation District No. 1 Canal (Barstow Canal) near Barstow, Tex.....	-	1922-25; 1939-
Drainage into Soda Lake near Barstow, Tex.....	-	1939-40.
Pecos River above Barstow (below Barstow Canal), Tex...	-	1922-26.
Pecos River near Pecos, Tex.....	-	1898-1907.
Reeves County Water Improvement District No. 2 Canal wasteway near Pecos, Tex.....	-	1939-40.
Pecos River at Pecos, Tex.....	a/22,100	1939-54.
John T. Yarborough pump near Pecos, Tex.....	-	1940.
Ward County Irrigation District No. 1 lateral No. 1 wasteway near Pecos, Tex.....	-	1939-40.
Barstow drainage ditch No. 1 near Barstow, Tex.....	-	1939-40.
Pecos River near Barstow, Tex.....	-	1914-15.
Rock Quarry Draw near Barstow, Tex.....	-	1939-40.
Barstow drainage ditch below confluence of ditches 2, 3, and 4 near Barstow, Tex.....	-	1939-40.
Ward County Irrigation District No. 1 Canal wasteway below Barstow, Tex.....	-	1940.
Madera Canyon (head of Toyah Creek) near Toyahvale, Tex.....	54	1932-49.
Madera Canyon seepage investigation.....	-	1932-33.
Little Aguja Canyon seepage investigation.....	-	1932.
Big Aguja Canyon seepage investigation.....	-	1932.
Phantom Lake Spring near Toyahvale, Tex.....	-	1932-33; 1942-48††; 1948-
Giffin Spring at Toyahvale, Tex.....	-	1931-33; 1942- ††
San Solomon Springs at Toyahvale, Tex.....	-	1931-33; 1941-
Reeves County Water Improvement District No. 1 seepage investigations.....	-	1931; 1933; 1935; 1940.
Reservoir Outlet Canal of Reeves County Water Improvement District No. 1 seepage investigation.....	-	1932-33.
West Sandia Spring at Balmorhea, Tex.....	-	1931-33; 1942- ††
West Sandia Creek seepage investigation.....	-	1932.
East Sandia Spring at Balmorhea, Tex.....	-	1931-33; 1942- ††
Cherry Canyon seepage investigation.....	-	1932.
Toyah Creek near Pecos, Tex.....	1,024	1939-40; 1943-45.
Salt Draw near Pecos, Tex.....	1,882	1939-40; 1943-45.
Limpia Creek (head of Barrilla Creek) near Fort Davis, Tex.....	303	1925-32.
Limpia Creek seepage investigation.....	-	1932-33.
Barrilla Creek near Saragosa, Tex.....	-	1924-26; 1932.
Barrilla Creek near Pecos, Tex.....	733	1940.

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†† Discharge measurements only at regular intervals.

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Figures of drainage area shown for stations in Pecos River basin represent the contributing area.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin--Continued		
Pecos River--Continued		
Toyah Creek below Toyah Lake, near Pecos, Tex.....	3,709	1939-51.
Toyah Creek seepage investigation.....	-	1932-33.
Grandfalls-Big Valley Canal near Barstow, Tex.....	-	1922-25; 1939-
Pecos River below Barstow, Tex.....	a/25,980	1939-40.
E. W. Fate pump near Grandfalls, Tex.....	-	1940.
Pecos County Water Improvement District No. 2 upper diversion Canal (Imperial Highline Canal), near Grandfalls, Tex.....	-	1922-25; 1939-
Pecos County Water Improvement District No. 2 lower diversion Canal (Imperial Lowline Canal), near Grandfalls, Tex.....	-	1922-25; 1939-40.
Pecos County Water Improvement District No. 2 Canal near Imperial, Tex.....	-	1940-
Pecos County Water Improvement District No. 3 Canal near Grandfalls, Tex.....	-	1939-40.
Pecos County Water Improvement District No. 3 Canal below Buena Vista, Tex.....	-	1940.
Pecos County Water Improvement District No. 3 Canal near Imperial, Tex.....	-	1940-
Pecos River near Grandfalls, Tex.....	-	1914-26.
Ward County Water Improvement District No. 2 Canal near Grandfalls, Tex.....	-	1939-
Ward County Water Improvement District No. 2 lateral No. 2 wasteway below Grandfalls, Tex.....	-	1939-40.
Ward County Water Improvement District No. 2 Canal wasteway below Grandfalls, Tex.....	-	1940.
Pecos River below Grandfalls, Tex.....	27,820	1939-
Pecos River near Buena Vista, Tex.....	-	1921-26.
Pecos County Water Improvement District No. 2 west lateral wasteway near Buena Vista, Tex.....	-	1940.
Pecos County Water Improvement District No. 2 east lateral wasteway below Buena Vista, Tex.....	-	1940.
Drainage from Powell Lake below Buena Vista, Tex.....	-	1940.
Pecos County Water Improvement District No. 3 Canal wasteway below Buena Vista, Tex.....	-	1940.
Comanche Creek:		
Comanche Springs at Fort Stockton, Tex.....	-	1941-
Leon Creek:		
Leon Springs and flowing wells, 8 miles west of Ft. Stockton, Tex.....	-	1947-50**.
San Pedro Springs 7 miles northeast of Fort Stockton, Tex.....	-	1946- **
Seepage investigations on canals in Comanche Creek basin, Pecos County.....	-	1939.
Pecos River near Girvin, Tex.....	a/29,560	1939-
Pecos River near Sheffield, Tex.....	a/31,660	1921-25; 1939-49.
Pecos River near Comstock (Moorhead), Tex.....	t/35,293	1898*; 1900-1931; (1931-)t/
Pecos River seepage investigation.....	-	1918.
Goodenough Springs near Comstock, Tex.....	t/1.0	1929-31; (1924-29; 1931-)t/
Devils River near Juno, Tex.....	2,733	1925-49.
Devils River near Del Rio, Tex.....	t/4,185	1924-31; (1931-)t/
Devils River at Devils River, Tex.....	-	1900-1914.
Devils River seepage investigations.....	-	1925; 1928-29.
Rio Grande (below mouth of Devils River) near Devils River, Tex.....	-	1900-1915; 1919-20.
Cienegas Creek near Del Rio, Tex.....	t/18	(1931-35)t/.
Rio Grande near Del Rio, Tex.....	t/121,911	1923-31; (1931-)t/
Arroyo Las Vacas near Villa Acuna, Coah., Mex.....	t/146	(1938-)t/
San Felipe Creek near Del Rio, Tex.....	t/62	(1931-)t/
Sycamore Creek near Del Rio, Tex.....	t/515	(1932-35)t/.
Diversions from the Rio Grande into Maverick Canal at Las Moras Creek.....	-	(1949-)t/
Diversions from Rio Grande into Maverick Canal extension below power plant, near Eagle Pass, Tex.	-	(1939-)t/

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Figures of drainage area shown for stations in Pecos River basin represent the contributing area.

<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Rio Grande basin--Continued		
Pinto Creek near Del Rio, Tex.....	t/229	1928-31; (1931-)t/
Rio San Diego at Jimenez, Coah., Mex.....	t/931	(1922-)t/
Las Moras Creek:		
Las Moras Springs at Brackettville, Tex.....	-	1938-50*
Las Moras Creek near Eagle Pass, Tex.....	t/162	(1932-35)t/.
Rio San Rodrigo near El Moral (Paso De Las Mulass), Coah., Mex.....	t/586	(1922-)t/
Return flows to Rio Grande from Maverick powerplant near Eagle Pass, Tex.....	-	(1949-)t/
Rio Grande at Eagle Pass, Tex.....	t/125,504	1900-1916; 1923-31; (1931-)t/
Rio Escondido at Villa Fuente, Coah., Mex.....	t/1,130	(1923-)t/
Rio Grande at Laredo, Tex.....	t/130,859	1900-1914; 1922-26; (1924-)t/
Dolores Creek near San Ignacio, Tex.....	t/606	(1932-36)t/.
Rio Salado near Guerrero, Tamaulipas, Mex.....	t/21,528	1900-13; (1924-)t/
Rio Grande at Zapata, Tex.....	t/154,426	(1932-53)t/.
El Tigre Arroyo near Zapata, Tex.....	t/261	(1932-36)t/.
Rio Grande at Chapeno, Tex.....	-	(1953-)t/
Rio Alamo at Cd. Mier "El Paso del Contaro", Tam., Mex.	t/1,675	(1924-)t/
Rio Grande at Roma, Tex.....	t/157,448	1900-1914; 1922-25; 1929-31; (1924-29; 1931-)t/
Rio San Juan near Santa Rosalia Ranch, Tam., Mex.....	t/12,013	1900-1913; (1924-43)t/.
Rio San Juan at La Quemado, Tam., Mex.....	-	1900-1902.
Rio San Juan below Azucar Dam, Tam., Mex.....	t/12,473	(1943-45)t/.
Contributions from Rio San Juan above Rio Grande City, Tex.....	-	(1946-53)t/.
Los Olmos Creek near Rio Grande City, Tex.....	t/535	(1932-36)t/.
Rio Grande at Rio Grande City, Tex.....	t/170,986	(1924-)t/
Contributions from Rio San Juan below Rio Grande City, Tex.....	-	(1946-)t/
Rio Grande below Anzalduas dam site.....	-	(1952-53)t/.
Goodwin Canal above Penitas, Tex.....	-	1928-31.
Edinburg Canal at Penitas, Tex.....	-	1928-31.
North floodway south of McAllen, Tex.....	-	(1926-35; 1938-)t/
North floodway near Sebastian, Tex.....	-	(1940-)t/
Mission canal near Mission, Tex.....	-	1928-31.
Granjeno Canal near Mission, Tex.....	-	1928-31.
South floodway south of McAllen, Tex.....	-	(1926-35; 1938-)t/
McAllen Canal near Hidalgo, Tex.....	-	1928-31.
Rio Bravo Canal near Hidalgo, Tex.....	-	1928-31.
Rio Grande at Hidalgo, Tex.....	t/171,031	1928-31.
Rio Grande at Buenos Aires, Tam., Mex.....	-	(1943-44)t/.
Diversions from Rio Grande into Retamal Canal near Rio Bravo, Tam., Mex.....	-	(1939-)t/
Rio Grande at Las Palmas, Tam., Mex.....	-	(1945-49)t/.
Rio Grande at Mercedes Bridge, Tex.....	t/171,861	(1935-41)t/.
Rancho Viejo floodway near Brownsville, Tex.....	-	(1935-36; 1938-47)t/.
Rio Grande at Matamoros (near Brownsville), Tam., Mex.....	t/171,883	1900-1914; 1922-26; (1926-)t/
Rio Grande at Lower Brownsville Station, Tex.....	t/171,887	(1934-)t/
Diversions from Rio Grande on United States side below Rio Grande City, Tex.....	-	(1938-)t/
Rio Grande seepage investigations.....	-	1925-26; 1928.

INTERIOR BASINS IN NEW MEXICO

Mimbres River basin

Mimbres River:		
Bear Canyon near Mimbres, N. Mex.....	14.5	1937-49; 1949-55.
Mimbres River near Mimbres, N. Mex.....	152	(1921-24; 1924-25+; 1926-30)r/; 1930-
Mimbres River near Faywood, N. Mex.....	a/460	1908-14; (1915-24; 1924-25+; 1926-30)r/; 1930-55.
San Vicente Arroyo:		
Rio de Arena near Hurley, N. Mex.....	a/16	1913-14.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

r/ In reports of State engineer of New Mexico.

t/ In Water Bulletins of International Boundary and Water Commission.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Mimbres River basin--Continued		
San Vicente Arroyo--Continued		
Cameron Creek:		
Stevens Creek near Fort Bayard, N. Mex.....	-	1907-12*; 1912-14.
Cameron Creek at Fort Bayard, N. Mex.....	-	1907-10; 1911-13*.
Cameron Creek near Hurley, N. Mex.....	a/46	1913-14.
Whitewater Creek (Draw) at Hurley, N. Mex.....	a/35	1913-14.
Lampbright Draw near Santa Rita, N. Mex.....	-	1912-14; (1914-22)r/.
Tularosa Valley basin		
Rio Tularosa at Mescalero, N. Mex.....	-	1910-11*.
Rio Tularosa near Bent, N. Mex.....	a/120	1911*; 1948-
Rio Tularosa near Tularosa, N. Mex.....	-	1912-14; (1916-17)r/;
		1931-47.
Rio La Luz on Coglans Ranch, near La Luz, N. Mex.....	-	(1912†)r/.
Rio La Luz near La Luz, N. Mex.....	a/30	1911-12*; (1912†)r/.
Rio Fresno at Mountain Park, N. Mex.....	-	(1912†)r/.
Rio Fresno near Mountain Park, N. Mex.....	a/44	1911-12*; (1912†)r/.
Rio La Luz at La Luz, N. Mex.....	a/74	1910-13; (1912†)r/;
		1931-32.
Alamogordo-La Luz ditch at La Luz, N. Mex.....	-	1934-41; 1941-49†.
Alamo Creek at Woods Ranch, near Alamogordo, N. Mex.....	-	1931-37.
Alamogordo water supply near Alamogordo, N. Mex.....	-	1932-41; 1941-51†.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

r/ In reports of State engineer of New Mexico.

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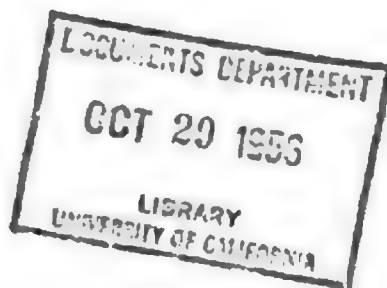
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Terlingua Creek, Tex.....	15	Whitewater Creek, N. Mex.....	20
Tesuque Creek, N. Mex.....	12	Whitewater Draw, N. Mex.....	20
Tesuque Creek, Little, N. Mex.....	12	Whitney Reservoir, Tex.....	4
Tesuque, Rio, N. Mex.....	12	Willow Creek, Colo. (in northern part of San Luis Valley).....	9
Thomas, Lake J. B., Tex.....	5	Willow Creek, Colo. (tributary to Rio Grande).....	9
Tijeras Arroyo, N. Mex.....	13	Willow Creek, N. Mex.....	11
Tijeras Creek, N. Mex.....	13		
Tornillo Canal, Tex.....	15	Yarborough, John T., pump, Tex.....	17
Tornillo drain, Tex.....	15	Yegua Creek, Tex.....	5
Toyah Creek, Tex.....	17-18		
Travis, Lake, Tex.....	7	Zia ditch, N. Mex.....	13
Treasure Pass ditch, Colo.....	9	Zia Reservoir, N. Mex.....	13
Trinchera Creek, Colo.....	10		
Trinity River, Tex.....	3		
Trinity River, Clear Fork, Tex.....	3		
Trinity River, East Fork, Tex.....	3		
Trinity River, Elm Fork, Tex.....	3		
Trinity River, West Fork, Tex.....	3		
Trujillo ditch, N. Mex.....	12		
Tularosa, Rio, N. Mex.....	20		
Turtle Creek, Tex.....	3		

L.U.S.

GEOLOGICAL SURVEY CIRCULAR 389

INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955

PART 9.—COLORADO RIVER BASIN



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 380

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 9.—COLORADO RIVER BASIN

By J. S. Gatewood

Washington, D. C. 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 9.—COLORADO RIVER BASIN

By J. S. Gatewood

EXPLANATION

This index lists the streamflow and reservoir stations in the Colorado River basin for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indentation and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indentation in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 26 to 31.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River:		
Transmountain diversion		
Grand River ditch at La Poudre Pass, Colo.....	-	1896-1903†; 1903-9**; 1909- †
Colorado River below Baker Gulch, near Grand Lake, Colo.....	53.0	1953-
Colorado (Grand)(North Fork Grand) River near Grand Lake, Colo.....	103	1904-18; 1933-
Little Columbine Creek basin		
Little Columbine Creek above Shadow Mountain Reservoir, at Grand Lake, Colo.....	1.28	1950-55.
Grand Lake Outlet basin		
North Inlet (head of Grand Lake Outlet):		
Tonahutu Creek:		
Eureka ditch near Flattop Mountain, Colo.....	-	1940- †
North Inlet (North Inlet to Grand Lake) at Grand Lake, Colo.....	46.6	1905-9; 1910-12; 1947-55.
Grand Lake:		
Alva B. Adams tunnel at east portal, near Estes Park, Colo.....	-	1947-
East Inlet near Grand Lake, Colo.....	27.1	1947-55.
Grand Lake Outlet at Grand Lake, Colo.....	76.7	1904-9; 1910-13.
Shadow Mountain Reservoir near Grand Lake, Colo.....	190	1947-50†; 1950-
Colorado River below Shadow Mountain Reservoir (Dam), Colo.....	190	1947-
Columbine Creek basin		
Columbine Creek above Granby Reservoir, near Grand Lake, Colo.....	a/7.3	1950-55.
Roaring Fork basin		
Roaring Fork above Granby Reservoir, Colo.....	6.06	1951-55.
Arapaho Creek basin		
Arapaho Creek at Monarch Lake Outlet, Colo.....	47.1	1944-
Arapaho Creek below Monarch Lake, Colo.....	a/59	1934-44.
Arapaho Creek (South Fork of Grand River) near Lehman, Colo.....	a/68	1907-8.
Stillwater Creek basin		
Stillwater Creek above Granby Reservoir, near Grand Lake, Colo.....	18.8	1950-55.
Granby Reservoir near Granby, Colo.....	311	1950-
Colorado River below Granby Reservoir, Colo.....	311	1950-
Colorado (Grand) River near Granby, Colo.....	322	1907-11; 1933-53.
Willow Creek basin		
Willow Creek near Granby, Colo.....	105	1934-53.
Willow Creek above Willow Creek Reservoir, Colo.....	128	1953-
Willow Creek below Willow Creek Reservoir, Colo.....	134	1953-
Fraser River basin		
Fraser River:		
Tributaries near Berthoud Pass:		
Berthoud Pass ditch at Berthoud Pass, Colo.....	-	1910-31**; 1931- †
Fraser River (near Fraser) at upper station, near Winter Park (Fraser), Colo.....	a/9	1908-9; 1910-11*.
Moffat water tunnel at East Portal, Colo.....	-	1936- †
Jim Creek (Big, East) (Little, West) at Winter Park (at mouth, near Fraser), Colo.....	a/5½	1907-9.
Fraser River above Winter Park (West Portal)(at lower station, near Fraser), Colo.....	22.1	1907-9; 1934-37.
Fraser River near Winter Park (Arrow)(West Portal), Colo.....	27.6	1910-30; 1930-33†; (1930-33)b/; 1933-
Vasquez Creek at upper station, near Winter Park (Fraser), Colo.....	a/20	1909.
Vasquez Creek near Winter Park (West Portal)(at lower station, near Fraser), Colo.....	27.8	1907; 1909; 1933-
Elk Creek (at mouth, near Fraser) at Fraser, Colo..	a/9	1907-9.
St. Louis Creek at upper station, near Fraser, Colo.	a/21	1908-9.
St. Louis Creek near Fraser, Colo.....	32.8	1933-
St. Louis Creek at lower station, near Fraser, Colo.	a/38	1909.
Ranch Creek (North Ranch Creek at upper station) near Rollins Pass, Colo.....	a/2	1908-9.
Ranch Creek above forks, near Fraser, Colo.....	a/3.8	1937-42.
North Fork Ranch Creek near Fraser, Colo.....	a/3.6	1937-42.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Fraser River basin--Continued		
Ranch Creek above Middle Fork, near Fraser (North Ranch Creek at lower station, near Rollins Pass), Colo.....	a/10	1907-9.
Middle Fork Ranch (Middle Ranch) Creek at upper station, near Winter Park (Arrow), Colo.....	a/3.5	1908-9.
Middle Fork Ranch Creek near Fraser, Colo.....	a/4.4	1937-42.
South Fork Ranch Creek near Winter Park (West Portal)(South Ranch Creek at upper station, near Arrow), Colo.....	2.55	1908-9; 1936-42.
South Fork Ranch Creek near Fraser (South Ranch Creek at lower station, near Arrow), Colo.	a/4	1907-9.
Middle Fork Ranch (Middle Ranch) Creek at lower station, near Fraser (Arrow), Colo.....	a/10	1907-9.
Ranch Creek near Fraser, Colo.....	19.9	1934-
Ranch Creek near Tabernash, Colo.....	50.7	1934-
Meadow Creek near Tabernash, Colo.....	a/7.0	1935-
Strawberry Creek near Granby, Colo.....	12.6	1935-45.
Fraser River at Granby (near Coulter), Colo.....	285	1904-9; 1937-55.
Colorado (Grand) River at Hot Sulphur Springs (Sulphur Springs), Colo.....	782	1904-9; 1909-10†; 1910-28; 1928-33†; (1928-33) <u>b</u> /; 1933-
Williams River basin		
Bobtail Creek (head of Williams River):		
Jones Pass tunnel at east portal, near Jones Pass, Colo.....	-	1940- †
Williams River below Steelman Creek, Colo.....	16.3	1933-41.
Williams River near Leal, Colo.....	89.5	1933-
Keyser Creek near Leal, Colo.....	13.7	1942-52.
Williams River (Fork) near Scholl, Colo.....	143	1910-17.
Williams River (Fork) near Parshall (Hot Sulphur Springs) (Sulphur Springs), Colo.....	186	1904-24; 1933-
Williams Fork Reservoir near Parshall, Colo.....	234	1939- †
Williams River below Williams Fork Reservoir, Colo....	234	1948-54.
Troublesome Creek basin		
Troublesome Creek near Pearmont, Colo.....	-	1953-
Troublesome Creek at Atmore Ranch, near Troublesome, Colo.....	50.3	1937-41†; 1941-43.
East Fork Troublesome Creek near Troublesome, Colo..	81.4	1937-41†; 1941-43; 1953-
Troublesome Creek (River) near (at) Troublesome, Colo..	178	1904-5; 1921-24; 1937-41†; 1941-
Muddy Creek basin		
Muddy Creek near Kremmling, Colo.....	71.7	1937-41†; 1941-43.
Muddy Creek (River) at (near) Kremmling, Colo.....	275	1904-5.
Blue River basin		
Monte Cristo Creek (head of Blue River):		
Hoosier Pass tunnel.....	-	1952- †
West Lake Creek:		
West Hoosier ditch at Hoosier Pass, Colo.....	-	1935-39†.
Monte Cristo Creek near Hoosier Pass, Colo.....	-	1953-
Hoosier Creek:		
East Hoosier ditch at Hoosier Pass, Colo.....	-	1935-40†.
Hoosier Creek at Hoosier Pass, Colo.....	1.15	1953-
Bemrose Creek near Hoosier Pass, Colo.....	1.95	1953-
McCullough Gulch near Breckenridge, Colo.....	4.79	1953-
Spruce Creek near Breckenridge, Colo.....	5.23	1953-
Indiana Creek:		
Boreas Pass ditch at Boreas Pass, Colo.....	-	1933- †
Blue River at Breckenridge, Colo.....	a/49	1914-15.
Blue River at Dillon, Colo.....	129	1910-
Snake River near Montezuma, Colo.....	58.9	1942-46; 1951-
Snake River at Dillon, Colo.....	a/92	1910-19; 1929-
Tenmile Creek:		
Tributaries near Fremont Pass:		
Fremont Pass ditch near Fremont Pass, Colo.....	-	1929- †
Tenmile Creek near Kokomo, Colo.....	a/67	1904.
Tenmile Creek near Uneva Lake, Colo.....	-	1905*.
Tenmile Creek at Frisco, Colo.....	a/79	1942-50.
Tenmile Creek at Dillon, Colo.....	113	1910-19; 1929-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Blue River basin--Continued		
Straight Creek near Dillon, Colo.....	12.8	1943-52.
Willow Creek near Dillon, Colo.....	13.5	1942-51.
Rock Creek near Dillon, Colo.....	15.8	1942-
Boulder Creek near Dillon, Colo.....	a/9.7	1942-51.
Slate Creek near Dillon, Colo.....	16.8	1942-54.
Blue River above Green Mountain Reservoir, Colo.....	514	1943-
Black Creek below Black Lake, near Dillon, Colo....	15.2	1942-49.
Black Creek above Green Mountain Reservoir, Colo....	18.2	1944-53.
Otter Creek above Green Mountain Reservoir, Colo....	a/9.4	1944-53.
Cataract Creek above Green Mountain Reservoir, Colo.....	14.4	1944-53.
Blue River near Kremmling, Colo.....	560	1904-8.
Elliott Creek feeder canal to Green Mountain Reservoir, Colo.....	-	1944-53.
Green Mountain Reservoir near Kremmling, Colo.....	599	1942-50†; 1950-
Blue River below Green Mountain Reservoir (near Kremmling), Colo.....	599	1937-
Colorado (Grand) River near Kremmling, Colo.....	a/2,360	1904-18.
Piney River basin		
Piney River below Piney Lake, near Minturn, Colo.....	13.0	1947-54.
North Fork Piney River near State Bridge, Colo.....	14.8	1944-46.
Piney River near State Bridge, Colo.....	82.6	1944-
Colorado (Grand) River at State Bridge (near Walcott), Colo.....	a/2,670	1906-8.
Rock Creek basin		
Rock Creek near Toponas, Colo.....	a/48	1952-
Cabin Creek basin		
Cabin Creek:		
Sunnyside Creek near Burns, Colo.....	a/10	1952-
Eagle River basin		
Eagle River:		
East Fork Eagle River:		
Columbine ditch near Fremont Pass, Colo.....	-	1931- †
Piney Creek:		
Ewing ditch at Tennessee Pass, Colo.....	-	1908- †
Mitchell Creek:		
Wurtz ditch near Tennessee Pass, Colo.....	-	1932- †
Eagle River at Red Cliff, Colo.....	72.2	1910-25; 1944-
Turkey Creek at Red Cliff, Colo.....	28.6	1913-21; 1944-
Homestake Creek at Gold Park, Colo.....	33.2	1947-
Homestake Creek near Red Cliff, Colo.....	58.9	1944-
Homestake Creek at (near) Red Cliff, Colo.....	a/64	1910-18.
Gore Creek at upper station, near Minturn, Colo....	14.4	1947-
Black Gore Creek near Minturn, Colo.....	11.8	1947-
Gore Creek near Minturn, Colo.....	100	1911-14*; 1944-
Beaver Creek at Avon, Colo.....	a/15	1911; 1912-14*.
Eagle River at Eagle, Colo.....	650	1910-24.
Brush Creek near Eagle, Colo.....	a/71	1950-
Brush Creek at Eagle, Colo.....	146	1910-13.
Eagle River at Gypsum (near Eagle), Colo.....	844	1905-9.
Gypsum Creek near Gypsum, Colo.....	a/63	1950-55.
Eagle River below Gypsum, Colo.....	957	1946-
Colorado River near Dotsero, Colo.....	a/4,390	1940-
Colorado (Grand) River near Shoshone, Colo.....	-	1897*.
No Name Creek basin		
No Name Creek near Glenwood Springs, Colo.....	-	1911-14*.
Glenwood Light and Power Co.'s flume near Glenwood Springs, Colo.....	-	1911-12*; 1913.
Colorado (Grand) River at Glenwood Springs, Colo.....	a/4,560	1899-
Roaring Fork basin		
Roaring Fork:		
Twin Lakes tunnel at east portal, near Twin Lakes, Colo.....	-	1935- †
Roaring Fork at Aspen, Colo.....	109	1910-21; 1931-33†; (1932-33)b/; 1934-
Hunter Creek near Aspen, Colo.....	a/40	1950-
Hunter Creek at Aspen, Colo.....	a/42	1911-12; 1913*.
Castle Creek near Aspen, Colo.....	a/62	1911-20.
Roaring Fork below Aspen, Colo.....	223	1913-18.
Maroon Creek near Aspen, Colo.....	a/42	1910-17.
Maroon Creek at lower station, near Aspen, Colo....	a/54	1913-15.

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† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Roaring Fork basin--Continued		
Snowmass Creek at Snowmass, Colo.....	a/89	1910-13.
Fryingpan Creek:		
Ivanhoe Creek:		
Busk-Ivanhoe tunnel at east portal, near Malta, Colo.....	-	1925-†
Fryingpan Creek at Norrie, Colo.....	89.5	1910-17; 1947-
North Fork Fryingpan Creek near Norrie, Colo.....	41.2	1910-17; 1947-
Lime Creek at Troutville, Colo.....	a/8.4	1950-
Lime Creek at Thomasville, Colo.....	a/32	1950-
Fryingpan Creek at Thomasville, Colo.....	175	1910-20.
Fryingpan Creek at Basalt, Colo.....	272	1908-9.
Roaring Fork near Emma, Colo.....	853	1908-9.
Crystal River at Marble, Colo.....	a/77	1910-15; 1915-16*; 1916-17.
Avalanche Creek near Redstone, Colo.....	-	1955-
Crystal River near Redstone, Colo.....	225	1935-
Thompson Creek near Carbondale, Colo.....	a/76	1950-
Crystal River near Carbondale (Sewell), Colo.....	310	1908-9.
Cattle Creek near Carbondale, Colo.....	a/34	1950-55.
Fourmile Creek near Carbondale, Colo.....	a/8.0	1941-47.
Roaring Fork at Glenwood Springs, Colo.....	a/1,460	1905-9; 1910-31; 1931-33†; (1931-33)b/; 1933-
Canyon Creek basin		
Canyon Creek near New Castle, Colo.....	-	1954-
Elk Creek basin		
West Fork Elk (West Elk) Creek near New Castle, Colo...	-	1911*.
Elk (Middle Elk) Creek near New Castle, Colo.....	-	1911-14*.
East Fork Elk (East Elk) Creek near New Castle, Colo.	a/51	1910-15.
Elk Creek at New Castle, Colo.....	177	1922-24†; (1922-24)b/; 1954-
Garfield Creek basin		
Garfield Creek:		
Baldy Creek near New Castle, Colo.....	-	1955-
Divide Creek basin		
West Divide Creek:		
Willow Creek near Raven, Colo.....	a/12	1935-38.
West Divide Creek below Willow Creek, near Raven, Colo.	32.7	1938-47.
West Divide Creek near Raven, Colo.....	-	1955-
West Divide Creek at Beard Ranch (at Hostetler Ranch), near Raven, Colo.....	a/90	1909*; 1910-11.
West Divide Creek at Raven, Colo.....	a/120	1909-10; 1910-11*.
Mamm Creek basin		
West Mamm Creek near Rifle, Colo.....	a/13	1909-10.
Rifle Creek basin		
Rifle Creek:		
East Fork Rifle Creek near Rifle, Colo.....	a/32	1936-40†; 1940-43.
Rifle Creek near Rifle, Colo.....	a/140	1939-40†; 1940-46; 1952-
Beaver Creek basin		
Beaver Creek near Rifle, Colo.....	a/16	1952-
Parachute Creek basin		
Parachute Creek near Grand Valley, Colo.....	144	1948-54.
Parachute Creek at Grand Valley, Colo.....	200	1921-27; 1948-54.
Roan Creek basin		
Roan Creek at Simmons Ranch, near Highmore, Colo.....	a/79	1935-37.
Carr Creek at Alternbern Ranch, near Highmore, Colo..	a/17	1935-37.
Roan Creek near DeBeque, Colo.....	a/210	1921-26.
Colorado River near Cameo, Colo.....	a/8,060	1933-
Plateau Creek basin		
Plateau Creek at upper station, near Collbran, Colo....	a/24	1937-41†; 1941-43, 1951-
Plateau Creek near Collbran, Colo.....	a/88	1921-33†; (1921-33)b/; 1933-
Buzzard Creek near Heiberger, Colo.....	76.5	1936-42.
Buzzard Creek near Collbran, Colo.....	139	1921-33†; (1921-33)b/; 1933-
Big Creek below Bonham Reservoir, near Collbran, Colo.....	a/6.1	1939-41†; 1941; 1941-42†; 1952-54.
Atkinson Creek near Collbran, Colo.....	-	1954-55.
East Fork Big Creek near Collbran, Colo.....	a/5	1940-41†; 1950-55.
Big Creek at upper station, near Collbran, Colo.....	a/17	1945-
Big Creek near Collbran, Colo.....	25.3	1937-41†; 1941-44.
Cottonwood Creek at upper station, near Molina, Colo.	a/16	1945-
Cottonwood Creek near Molina, Colo.....	19.7	1937-41†; 1941-43.
Bull Creek at upper station, near Molina, Colo.....	a/10	1945-53.
Bull Creek near Molina, Colo.....	-	1937-41†; 1941-42.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Plateau Creek basin--Continued		
Bull Creek at Goyrn Ranch, near Molina, Colo.....	13.8	1942-43.
Plateau Creek near Molina, Colo.....	464	1912†; (1912)b/.
Coon Creek at upper station, near Mesa, Colo.....	a/6.1	1945-47.
Coon Creek near Mesa, Colo.....	10.0	1937-41†; 1941-43.
Mesa Creek near Mesa, Colo.....	a/7	1937-41†; 1941-
Plateau Creek near Cameo, Colo.....	604	1935-
Colorado River above diversions to Grand Valley, Colo....	-	1897-50**.
Colorado (Grand) River near Palisade, Colo.....	a/8,790	1901-33.
Colorado (Grand) River at Grand Junction, Colo.....	a/8,910	1894-96*; 1896-99; 1899-1900*.
<u>Gunnison River basin</u>		
Taylor River (head of Gunnison River) at Taylor Park, Colo.....	121	1929-33†; (1929-33)b/; 1933-34.
Texas Creek at Taylor Park, Colo.....	a/36	1929-33†; (1929-33)b/; 1933-34.
Willow Creek at Taylor Park, Colo.....	a/47	1913-14†; 1929-33†; (1929-33)b/; 1933-34.
Taylor Park Reservoir at Taylor Park, Colo.....	245	1937-†
Taylor River below Taylor Park Reservoir, Colo.....	245	1929-34†; 1938-
Taylor River near (above) Almont, Colo.....	317	1905.
Taylor River at Almont, Colo.....	a/440	1910-31; 1931-33†; (1931-33)b/; 1933-
East River near Crested Butte, Colo.....	89.2	1939-41†; 1941-51.
Slate River:		
Coal Creek near Crested Butte, Colo.....	a/8.5	1941-46.
Slate River near Crested Butte, Colo.....	69.0	1940-41†; 1941-51.
Cement Creek near Crested Butte, Colo.....	27.7	1910-13; 1940-41†; 1941-51.
East River at Almont, Colo.....	295	1905; 1910-22; 1934-
Ohio Creek:		
Castle Creek near Baldwin, Colo.....	17.5	1944-50.
Ohio Creek near Baldwin, Colo.....	124	1940-41†; 1941-50.
Ohio Creek near Gunnison, Colo.....	150	1944-50.
Gunnison River near Gunnison, Colo.....	a/1,010	1910-28; 1944-
Tomichi Creek:		
Tributaries near Marshall Pass:		
Larkspur ditch at Marshall Pass, Colo.....	-	1935-†
Tomichi Creek at Sargents, Colo.....	155	1916-22; 1937-
Tomichi Creek near Doyleville, Colo.....	228	1944-50.
Razor Creek near Doyleville, Colo.....	-	1955-
Tomichi Creek at Parlin, Colo.....	586	1944-51.
Quartz Creek near Pitkin, Colo.....	55.8	1910-13.
Quartz Creek near Ohio, Colo.....	106	1937-50.
Cochetopa Creek near Parlin, Colo.....	346	1940-41†; 1941-48.
Tomichi Creek at (near) Gunnison, Colo.....	a/1,020	1910*; 1937-
Beaver Creek at Huerfano, Colo.....	a/36	1940-41†; 1942-43.
Steuben Creek at Elkhorn, Colo.....	a/27	1940-41†; 1942-43.
Gunnison River at Iola, Colo.....	a/2,490	1899-1903; 1937-51.
Cebolla Creek:		
Tabor (Spring Creek) ditch at Spring Creek Pass, Colo.....	-	1928-†
Cebolla Creek near Lake City, Colo.....	25.5	1946-54.
Cebolla Creek at Powderhorn, Colo.....	334	1937-55.
Sapinero Creek near Sapinero, Colo.....	-	1955-
Sapinero Creek at Sapinero, Colo.....	85.5	1910-14; 1945-52.
Lake Fork at Lake City, Colo.....	123	1917-24; 1928-30; 1931-37.
Henson Creek at Lake City, Colo.....	a/82	1917-19; 1928-30; 1931-37.
Lake Fork at Gateview, Colo.....	338	1937-
Curecanti Creek near Sapinero, Colo.....	31.8	1945-
Gunnison River near Cimarron, Colo.....	a/3,650	1903-5.
Cimarron Creek near Cimarron, Colo.....	66.8	1954-
Cimarron Creek at Cimarron, Colo.....	212	1902-5.
Cimarron Creek below Squaw Creek, at Cimarron, Colo..	232	1942-52.
Crystal Creek near Maher, Colo.....	39.1	1916-19; 1945-54.
Gunnison River below Gunnison Tunnel (at River Portal), Colo.....	a/3,980	1903-11; 1911-43†; 1943-
Smith Fork near Crawford, Colo.....	a/42	1935-41†; 1941-
Smith Fork at Crawford, Colo.....	-	1954-
Iron Creek near Crawford, Colo.....	a/67	1947-52.
East Muddy Creek (head of North Fork Gunnison River) near Ragged Mountain, Colo.....	a/80	1935-36.

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† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Gunnison River basin--Continued		
East Muddy Creek near Bardine, Colo.....	136	1934-53.
West Muddy Creek:		
Cow Creek near Bowie, Colo.....	a/9.7	1938-41†; 1941-42; 1942-43†.
Muddy Creek at Bardine, Colo.....	246	1949-55.
Anthracite Creek near Floresta, Colo.....	17.5	1938-41†; 1941-43; 1954-
North Fork Gunnison River near Somerset, Colo.....	521	1933-
North Fork Gunnison River near Paonia, Colo.....	702	1921-32†; (1921-32)b/.
Minnesota Creek:		
South Fork Minnesota Creek:		
East Fork Minnesota Creek near Paonia, Colo....	a/6.6	1941-43.
Minnesota Creek near Paonia, Colo.....	41.3	1936-41†; 1941-47.
Leroux Creek near Cedaredge, Colo.....	a/43	1936-
Leroux Creek near Lazear, Colo.....	a/52	1917-26.
Leroux Creek near Hotchkiss, Colo.....	a/64	1939-41†; 1942-43.
North Fork Gunnison River near Hotchkiss, Colo.....	933	1903-5.
Currant Creek near Cedaredge, Colo.....	a/36	1948-54.
Currant Creek near Eckert, Colo.....	37.7	1940-41†; 1941-42; 1943†.
Gunnison River near Cory, Colo.....	a/5,410	1903-5.
Surface Creek below Park Reservoir, near Grand Mesa, Colo.....	a/7.8	1939-40†; 1941.
Surface Creek near Cedaredge, Colo.....	a/28	1939-
Surface Creek at Cedaredge, Colo.....	a/43	1916-27; 1927-33†; (1927-33)b/; 1933-
Surface Creek at Eckert, Colo.....	a/55	1939-41†; 1942-51.
Tongue (Dirty George) Creek near Cedaredge, Colo...	11.2	1939-44†; 1944-46.
West Ward Creek below Island Lake Reservoir, near Grand Mesa, Colo.....	a/1	1939-42†; 1943.
East Ward Creek below Deep Slough Reservoir, near Grand Mesa, Colo.....	a/2	1939-41†; 1941-43.
Ward Creek near Cedaredge, Colo.....	a/19	1939-41†; 1942-46.
Kiser Creek at Grand Mesa, Colo.....	a/2	1942-43.
Kiser Creek near Cedaredge, Colo.....	12.9	1939-41†; 1942-46.
Cottonwood Creek near Cedaredge, Colo.....	a/5	1939-41†; 1942-46.
Youngs Creek near Cedaredge, Colo.....	a/19	1939-41†; 1942-46.
Ward Creek below Kiser Creek, near Cedaredge, Colo.....	57.8	1944-52.
Uncompahgre River:		
Red Mountain Creek near Ironton, Colo.....	17.8	1947-
Uncompahgre River at Ouray, Colo.....	a/44	1908; 1910-24.
Canyon Creek at Ouray, Colo.....	a/26	1910-15.
Uncompahgre River below Ouray, Colo.....	a/76	1913-28; 1928-29†; (1928-29)b/.
Dallas Creek:		
East Fork Dallas Creek near Ridgway, Colo.....	14.4	1947-53.
Dallas Creek near Ridgway, Colo.....	a/90	1922-27†; (1922-27)b/.
Uncompahgre River at (near) Colona, Colo.....	437	1903-5; 1912-16†; 1917-
Uncompahgre River at Port Crawford (Uncompahgre), Colo.....	490	1895-99; 1908-10.
Uncompahgre River near Fort Crawford, Colo.....	497	1910-11.
Uncompahgre River at Montrose, Colo.....	565	1900; 1903-23.
Uncompahgre River at (near) Delta, Colo.....	a/1,110	1903-31; 1938-
Roubideau Creek near Delta, Colo.....	165	1939-41.
Roubideau Creek at mouth, near Delta, Colo.....	245	1938-54.
Gunnison River at Roubideau, Colo.....	-	1897*.
Escalante Creek near Delta, Colo.....	194	1922-23†; (1922-23)b/.
Kahnah Creek near Whitewater, Colo.....	55.0	1917-21; 1922-33†; (1922-33)b/; 1933-
Gunnison River near (at) Grand Junction (Whitewater), Colo.....	a/8,020	1894-95*; 1896-99; 1901-6; 1916-28; 1928-33†; (1928-30)b/; 1933-
Colorado (Grand) River near Fruita, Colo.....	a/17,100	1907-23.
Salt Creek basin		
West Salt Creek:		
Badger Wash:		
Northeast Reservoir, Colo.....	.100	1954- c/
Algerita Reservoir, Colo.....	.220	1954- c/
Northwest Reservoir, Colo.....	.055	1954- c/

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

c/ Storm runoff for summer season only (report in preparation).

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Salt Creek basin--Continued		
West Salt Creek--Continued		
Badger Wash--Continued		
Upper Hanks silt trap, Colo.....	0.066	1954- c/
Lower Hanks silt trap, Colo.....	.085	1954- c/
Upper Oilwell Reservoir, Colo.....	.034	1954- c/
Lower Oilwell Reservoir, Colo.....	.026	1954- c/
North Basin Reservoir, Colo.....	.049	1954- c/
East Basin Reservoir, Colo.....	.089	1954- c/
Shepherd Reservoir, Colo.....	.094	1954- c/
Damedifknow Reservoir, Colo.....	.109	1954- c/
Yucca Reservoir, Colo.....	.157	1954- c/
Windy Point Reservoir, Colo.....	.019	1954- c/
Prairie Dog Reservoir, Colo.....	.023	1954- c/
Middle Basin Reservoir, Colo.....	.092	1954- c/
West Twin Reservoir, Colo.....	.148	1954- c/
East Twin Reservoir, Colo.....	.019	1954- c/
West Basin Reservoir, Colo.....	.172	1954- c/
West Badger Reservoir, Colo.....	.141	1954- c/
Southeast Reservoir, Colo.....	.484	1954- c/
Colorado River near Colorado - Utah State line.....	a/17,900	1951-
Dolores River basin		
Dolores River at Rico, Colo.....	a/83	1914; 1919-21.
Rico Mining Co.'s tailrace at Rico, Colo.....	-	1914.
Dolores River below Rico, Colo.....	105	1951-
West Fork Dolores River near Dunton, Colo.....	39.4	1941-43.
West Fork Dolores River near Stoner, Colo.....	160	1941-44.
Dolores River at Dolores, Colo.....	556	1895-1903; 1910-12; 1921-33†; (1921-33)b/; 1933-
Lost Canyon Creek at Dolores, Colo.....	a/81	1922-27†; (1922-27)b/; 1941-48.
Dolores River near McPhee, Colo.....	793	1938-52.
Disappointment Creek at upper station, near Cedar, Colo.....	a/69	1940-44.
Disappointment Creek near Cedar, Colo.....	a/180	1940-41; 1953-
La Sal Creek:		
Twomile Creek near La Sal, Utah.....	21.9	1944-51.
Dolores River at Bedrock, Colo.....	a/1,910	1917-22.
West Paradox Creek:		
Buckeye Reservoir Outlet near Paradox, Colo.....	-	1944-51.
West Paradox Creek near Paradox, Colo.....	a/25	1944-52.
West Paradox Creek near Bedrock, Colo.....	a/55	1944-52.
San Miguel River at Fall Creek (Seymour), Colo.....	172	1895-99; 1910*.
Fall Creek near Fall Creek, Colo.....	33.5	1941-42†; 1942-
San Miguel River near (at) Placerville, Colo.....	308	1909†; 1910-12; 1930-33†; (1930-33)b/; 1933-34; 1942-
Beaver Creek near Norwood, Colo.....	35.2	1941-42†; 1942-
Horsefly Creek near Sams, Colo.....	23.3	1942-51.
San Miguel River near Nucla, Colo.....	a/660	1953-
Cottonwood Creek near Nucla, Colo.....	a/43	1942-51.
Naturita Creek near Norwood, Colo.....	27.7	1940-41†; 1941-52.
San Miguel River at Naturita, Colo.....	a/1,080	1917-27; 1927-29†; (1927-29)b/; 1940-
Dry Creek:		
Middle Reservoir, Colo.....	a/1.9	1949- c/
Tabeguache Creek near Nucla, Colo.....	20.7	1946-53.
San Miguel River at Uravan, Colo.....	a/1,550	1954-
Taylor Creek (head of Roc Creek) near Gateway, Colo...	a/12	1944-
Deep Creek near Paradox, Colo.....	-	1944-53.
Geyser Creek near Paradox, Colo.....	-	1944-51.
Roc Creek near Uranium, Colo.....	69.5	1944-52.
Dolores River at Gateway, Colo.....	a/4,350	1936-54.
Dolores River near Cisco, Utah.....	-	1950-
Colorado (Grand) River near Cisco, (Moab) Utah.....	a/24,100	1895-1910**; 1911-13†; 1913-17; 1917-22†; 1922-

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† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

c/ Storm runoff for summer season only (report in preparation).

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Colorado River--Continued</u>		
<u>Tributaries between Dolores River and Green River</u>		
Union Creek near Moab, Utah.....	a/20	1950-55.
Rock Creek near Moab, Utah.....	-	1950-53.
Castle Creek above diversions, near Moab, Utah.....	a/6.3	1950-55.
Castle Creek near Moab, Utah.....	a/50	1950-55.
Courthouse Wash near Moab, Utah.....	-	1949-55d/.
Mill Creek at Sheley tunnel, near Moab, Utah.....	-	1954-
Mill Creek near Moab, Utah.....	a/76	1914-19†; 1949-
Pack Creek at M4 Ranch, near Moab, Utah.....	-	1954-
Pack Creek near Moab, Utah.....	-	1954-
<u>Cane Spring Wash:</u>		
Hatch Wash near La Sal, Utah.....	a/370	1950- d/
Indian Creek near Monticello, Utah.....	a/4.5	1949-
Indian Creek above Cottonwood Creek, near Monticello, Utah.....	a/30	1949-
Cottonwood Creek near Monticello, Utah.....	a/110	1949-
Indian Creek above Harts Draw, near Monticello, Utah...	a/260	1949- d/
<u>Green River basin</u>		
Green River near Kendall, Wyo.....	271	1910-12; 1918.
Green River at Warren Bridge, near Daniel, Wyo.....	468	1931-
Beaver Creek near Daniel, Wyo.....	141	1938-54.
Horse Creek at Sherman Ranger Station, Wyo.....	-	1954-
Horse Creek near Daniel, Wyo.....	124	1931-54.
Horse Creek at Daniel, Wyo.....	173	1913-15†; (1913-14)e/; 1915-18.
Green River near Daniel, Wyo.....	932	1912-15†; (1912-14)e/; 1915-32.
Cottonwood Creek near Daniel, Wyo.....	202	1938-54.
Cottonwood Creek near Big Piney, Wyo. (North channel and South channel).....	227	1915-19; 1931-32.
Cottonwood Creek near mouth, near Big Piney, Wyo.....	238	1938-40.
New Fork River (New Fork) below New Fork Lake, near Cora, Wyo.....	36.2	1938-
New Fork River at Alexander's Ranch, near Cora, Wyo..	47.3	1910-11.
New Fork River at Pinedale crossing, near Cora, Wyo..	a/72	1905.
Willow Creek near Cora, Wyo.....	41.8	1938-41.
Lake Creek near Cora, Wyo.....	31.6	1938-41.
Duck Creek at Cora, Wyo.....	a/27	1938-41.
New Fork River near Pinedale, Wyo.....	241	1938-44.
Pine Creek above Fremont Lake, Wyo.....	-	1954-
Pine Creek at Fremont Lake Outlet (near Pinedale), Wyo.....	114	1910-12; 1915-18.
Pine Creek near Pinedale, Wyo.....	118	1904-6.
Pine Creek at Pinedale, Wyo.....	118	1903-4; 1914-54.
Pole Creek below Little Half Moon Lake, near Pinedale, Wyo.....	87.5	1938-
Pole Creek at Fayette, Wyo.....	126	1904-6.
Fall Creek near Pinedale, Wyo.....	37.2	1938-
Fall Creek near (at) Fayette, Wyo.....	a/38	1904-5.
Pole Creek near Pinedale, Wyo.....	167	1910*.
New Fork River near Boulder, Wyo.....	552	1914-
Boulder Creek above Boulder Lake, near Boulder, Wyo.....	115	1938-39.
Boulder Creek below Boulder Lake, near Boulder, Wyo.	130	1938-
Boulder Creek near Boulder (New Fork), Wyo.....	-	1903-6; 1914-24; 1930-32.
East Fork near Big Sandy, Wyo.....	79.2	1938-
East Fork at East Fork Canal, Wyo.....	106	1915-17; 1920-23.
Silver Creek near Big Sandy, Wyo.....	45.4	1938-
East Fork at Newfork, Wyo.....	348	1904-6; 1914-24; 1930-32.
New Fork River near Big Piney, Wyo.....	-	1954-
North Piney Creek near Mason (Marbleton), Wyo.....	a/58	1915-16; 1931-
Middle Piney Creek below South Fork, near Big Piney, Wyo.....	34.3	1939-54.
Middle Piney Creek above Springman Creek, near Big Piney, Wyo.....	42.1	1938-39.
Middle Piney Creek near Big Piney, Wyo.....	a/46	1914†; (1914)e/; 1915-18; 1931-32.
South Piney Creek near Big Piney, Wyo.....	117	1938-42.

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

d/ In files of Geological Survey, Salt Lake City, Utah.

e/ In reports of State engineer of Wyoming.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Green River basin--Continued		
La Barge Creek near La Barge Meadows ranger station, Wyo.....	a/6.3	1940-42; 1950-
La Barge Creek near Viola (Labarge), Wyo.....	172	1913; 1914†; (1914)e/; 1915-16; 1940-49.
La Barge Creek near La Barge (Tulsa), Wyo.....	193	1931-39.
Green River near Fontenelle, Wyo.....	3,970	1946-
Fontenelle Creek at upper station, near Fontenelle, Wyo.....	a/58	1941-42.
Fontenelle Creek near Herschler Ranch, near Fontenelle, Wyo.....	152	1951-
Fontenelle Creek near Fontenelle, Wyo.....	224	1914†; (1914)e/; 1915-19; 1931-53.
Big Sandy Creek:		
Squaw Creek near Big Sandy, Wyo.....	a/28	1911-12.
Dutch Joe Creek near Big Sandy, Wyo.....	17.0	1911-12*.
Big Sandy Creek at Leckie Ranch, near Big Sandy, Wyo..	a/94	1910-11; 1939-
Big Sandy Creek near Eden, Wyo.....	265	1911; 1912*.
Big Sandy Creek near Farson, Wyo.....	322	1914-17; 1920-24; 1926-34; 1953-
Big Sandy Creek below Eden, Wyo.....	-	1954-
Little Sandy Creek near Elkhorn, Wyo.....	20.9	1939-
Little Sandy Creek above Eden, Wyo.....	-	1954-
Pacific Creek near Farson, Wyo.....	-	1954-
Little Sandy Creek near Eden, Wyo.....	823	1911-12.
Green River at Green River, Wyo.....	a/7,670	1891†; (1891)e/; 1895-1906; 1914-39; 1940-45†.
Green River near Green River, Wyo.....	a/f/10,000	1951-
Blacks Fork above Blacks Fork ranger station, Utah....	48.8	1937-39.
Blacks Fork at Blacks Fork ranger station, Utah.....	129	1937-38.
Blacks Fork near Millburne, Wyo.....	156	1939-
Blacks Fork near Urle, Wyo.....	261	1913-24; 1937-55.
East Fork of Smith Fork at China Meadows, near Robertson, Wyo.....	36.9	1938-39.
East Fork of Smith Fork near Robertson, Wyo.....	53.0	1939-
West Fork of Smith Fork near Robertson, Wyo.....	37.2	1939-
Smith Fork near Robertson, Wyo.....	144	1938-39.
Smith Fork at Mountainview, Wyo.....	192	1941-
Blacks Fork near Lyman, Wyo.....	821	1937-40; 1940-41†; 1941-
Blacks Fork above Hams Fork, near (at) Granger, Wyo...	a/2,170	1896-97.
Hams Fork near Elk Creek ranger station, Wyo.....	128	1952-
Hams Fork near Frontier, Wyo.....	298	1945-
Hams Fork at Diamondville (Kemmerer), Wyo.....	386	1917-33; 1945-49.
Blacks Fork below Hams Fork, at Granger, Wyo.....	a/2,840	1896-1900; 1916†.
Blacks Fork near Green River, Wyo.....	3,670	1947-
Green River near Linwood, Utah.....	a/14,300	1928-
Henrys Fork near Lonetree, Wyo.....	a/56	1942-
Middle Fork Beaver Creek near Lonetree, Wyo.....	a/28	1948-
East Fork Beaver Creek near Lonetree, Wyo.....	a/8.2	1948-
West Fork Beaver Creek near Lonetree, Wyo.....	a/23	1948-
Henrys Fork near Burntfork, Wyo.....	242	1942-54.
Burnt Fork near Burntfork, Wyo.....	52.8	1943-
Burnt Fork at Burntfork, Wyo.....	a/73	1929-43.
Henrys Fork at Linwood, Utah.....	531	1928-
Henrys Fork near Linwood, Utah.....	644	1916.
Green River at Flaming Gorge, near Linwood, Utah.....	a/14,900	1923-38†.
Sheep Creek:		
Sheep Creek upper canal near Manila, Utah.....	-	1949-
Sheep Creek lower canal near Manila, Utah.....	-	1949-
Sheep Creek near Manila, Utah.....	45.9	1942-
Sheep Creek at mouth, near Manila, Utah.....	111	1946-
Carter Creek near Manila, Utah.....	-	1948-54.
Red Lake Outlet near Manila, Utah.....	a/19	1945-49.
Carter Creek at mouth, near Manila, Utah.....	a/110	1946-55.
Green River near Greendale, Utah.....	-	1950-
Green River at (near) Bridgeport, Utah.....	a/15,700	1911-15.

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† Monthly figures of discharge or contents only.

a/Approximately.

e/ In reports of State engineer of Wyoming.

f/ 300 sq mi probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Green River basin--Continued		
Vermilion Creek near Lodore (Ladore), Colo.....	1,017	1910; 1911*.
Yampa River near Toponas, Colo.....	a/23	1952-
Yampa River near Yampa, Colo.....	39.9	1939-43†; 1943-44.
Yampa River at Yampa, Colo.....	a/52	1910-13; 1914-15†; (1914-15)b/.
Yampa River near Oak Creek, Colo.....	227	1939-43†; 1943-44.
Oak Creek near Oak Creek, Colo.....	a/14	1952-
Walton Creek near Steamboat Springs, Colo.....	a/38	1920-22†; (1921-22)b/.
Fish Creek near Steamboat Springs, Colo.....	a/26	1918-20†; (1918-20)b/.
Yampa River at Steamboat Springs, Colo.....	604	1904-6; 1909-13; 1913-33†; (1914-33)b/; 1933-
Soda Creek at Steamboat Springs, Colo.....	a/47	1910-11; 1912-19†; (1913-19)b/.
Elk River at Hinman Park, Colo.....	a/61	1911-13; 1913-18†; (1914-18)b/.
Elk River at (near) Clark, Colo.....	206	1910-13; 1913-22†; 1930-33†; (1914-22; 1930-33)b/; 1933-
Big Creek near Steamboat Springs, Colo.....	a/41	1917-19†; (1917-19)b/.
Mad Creek near Steamboat Springs, Colo.....	a/40	1912-13; 1914-17†; (1914-17)b/.
Elk River near Trull, Colo.....	415	1904-6; 1909-13; 1914-27†; (1914-27)b/.
Trout Creek near Phippsburg, Colo.....	16.0	1953-
Trout Creek at Pinnacle, Colo.....	a/27	1910-11.
Fish Creek at Dunkley, Colo.....	a/29	1910-11.
Elkhead Creek near Clark, Colo.....	45.4	1942-44.
Elkhead (East Fork) Creek near Elkhead (at Hayes Ranch), Colo.....	a/68	1910†; 1920†; (1910; 1920)b/; 1953-
North Fork Elkhead Creek at Hayes Ranch, Colo....	a/26	1910†; 1920†; (1910; 1920)b/.
Elkhead Creek near Hayden, Colo.....	97.4	1942-44.
Elkhead Creek near Craig, Colo.....	249	1906; 1909-13; 1913-18†; (1914-18)b/.
Fortification Creek at Craig, Colo.....	258	1905-6; 1909-13; 1913-18†; (1914-18)b/; 1943-47.
Yampa River at (near) Craig, Colo.....	a/1,730	1901-2; 1903-6; 1909-13; 1914-16†; (1914-16)b/.
East Fork of Williams Fork (Williams River) (Williams Fork) near Pyramid, Colo.....	a/68	1909-11.
East Fork of Williams Fork near Willow Creek, Colo.	a/96	1943-47.
East Fork of Williams Fork near Pagoda, Colo.....	a/150	1953-
Williams Fork (River) at Hamilton, Colo.....	341	1904-6; 1909-13; 1914-27†; (1914-27)b/.
Milk Creek near Thornburg, Colo.....	a/65	1952-
Milk Creek near Axial, Colo.....	135	1903-5.
Yampa River near Maybell, Colo.....	a/3,410	1904-5; 1910-12; 1916-17; 1917-33†; (1917-33)b/; 1933-
Middle Fork Little Snake River near Battle Creek, Colo.....	120	1912-13; 1914-22†; (1914-22)b/.
South Fork Little Snake River at Flemings (near Battle Creek), Colo.....	a/22	1922-23†; (1922-23)b/.
South Fork Little Snake River near Battle Creek, Colo.....	a/46	1912-13; 1913-20†; (1914-20)b/.
Little Snake River near Slater, Colo.....	285	1942-47; 1950-
Battle Creek near Slater, Colo.....	85.3	1942-51.
Slater Fork: Roaring Fork of Slater Fork near Baxter Ranch, near Slater, Colo.....	a/7	1922†; (1922)b/.
Slater Fork (Creek) at Baxter Ranch, near Slater, Colo.....	a/80	1911-13; 1914-20†; 1922†; (1914-20; 1922)b/.
Slater Fork (Creek) near Slater, Colo.....	161	1910-12; 1931-33†; (1931-33)b/; 1933-
Savery Creek at upper station, near Savery, Wyo..	189	1940-44; 1952-
Savery Creek near Savery, Wyo.....	330	1941-46; 1947-

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† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Green River basin--Continued		
Yampa River--Continued		
Little Snake River--Continued		
Savery Creek at Savery, Wyo.....	354	1915-16; 1918-22.
Little Snake River near Dixon, Wyo.....	988	1910-13; 1913-16†; (1914-16)b/; 1916-23; 1938-
Willow Creek near Baggs, Wyo.....	a/5	1911-13; 1914-23†; (1914-23)b/.
Willow Creek near Dixon, Wyo.....	a/24	1953-
Muddy Creek:		
Little Robber Reservoir, Wyo.....	a/8.5	1954- c/
Muddy Creek near Baggs, Wyo.....	904	1915-16; 1918.
Fourmile Creek (at Ryan's Ranch), near Baggs, Wyo.....	a/4	1911-13; 1914-23†; (1914-23)b/.
Little Snake River near Lily (Maybell), Colo.....	a/3,730	1904; 1921-27; 1927-34†; (1927-33)b/; 1934-
Jones Hole Creek near Jensen, Utah.....	-	1950-
Green River near (at) Jensen (near Vernal), Utah.....	a/26,100	1903-4; 1905*; 1906; 1914-15; 1946-
Brush Creek:		
Oaks Park Canal near Vernal, Utah.....	-	1946-
Brush Creek above cave, near Vernal, Utah.....	a/23	1946-55.
Brush Creek near Vernal, Utah.....	a/82	1939-
Little Brush Creek below East Park Reservoir, near Vernal, Utah.....	a/20	1949-55.
Little Brush Creek near Vernal, Utah.....	a/28	1945-52.
Brush Creek near Jensen, Utah.....	255	1939-
Ashley Creek below Trout Creek, near Vernal, Utah....	a/27	1943-54.
South Fork Ashley Creek near Vernal, Utah.....	a/20	1943-55.
Oaks Park Canal near Vernal, Utah.....	-	1946-
Ashley Creek above springs, near Vernal, Utah.....	a/100	1941-45.
Ashley Creek Spring near Vernal, Utah.....	-	1943-45.
Ashley Creek (above Dry Fork) near Vernal, Utah.....	101	1911- g/
Utah Power & Light (Vernal Milling & Light) Co.'s tailrace near Vernal, Utah.....	-	1917; 1920-31.
Dry Fork:		
Mosby Canal near Lapoint, Utah.....	-	1954-
Dry Fork above sinks, near Dry Fork, Utah.....	a/48	1939-
North Fork of Dry Fork near Dry Fork, Utah.....	a/12	1946-
East Fork of Dry Fork near Dry Fork, Utah.....	a/12	1946-
East Fork of Dry Fork at mouth, near Dry Fork, Utah.....	-	1949-52.
Dry Fork below springs (Ashley Creek, Dry Fork), near Dry Fork (at Vernal), Utah.....	102	1904; 1941-45; 1954-
Dry Fork at mouth, near Dry Fork, Utah.....	-	1954- d/
Ashley Creek at Sign of the Maine (below Dry Fork), near Vernal, Utah.....	241	1900-1904; 1939-
Ashley Creek near Jensen, Utah.....	386	1946-
Green River at Ourey, Utah.....	-	1904-5.
Duchesne River:		
Duchesne tunnel near Kamas, Utah.....	-	1953-
Duchesne River (North Fork Duchesne River) at Provo River Trail, near Hanna, Utah.....	a/39	1929-33; 1935-43; 1944-54.
Hades Creek near Hanna, Utah.....	a/7.5	1949-
Duchesne River (North Fork Duchesne River) near Hanna, Utah.....	a/78	1921-23; 1929-30; 1946-
Duchesne River (North Fork Duchesne River) above Forks, Utah.....	-	1904*.
West Fork Duchesne River below Dry Hollow, near Hanna, Utah.....	a/47	1949-
West Fork Duchesne River near Hanna, Utah.....	a/61	1904; 1921-23; 1945-
Wolf Creek above Rhodes Canyon, near Hanna, Utah.	a/9	1945-
Wolf Creek near Hanna, Utah.....	a/19	1921-23.
Duchesne River at Hanna, Utah.....	-	1953-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

c/ Storm runoff for summer season only (report in preparation).

d/ In files of Geological Survey, Salt Lake City, Utah.

e/ For some months in 1914, 1918, 1929, monthly figures of discharge only.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Green River basin--Continued		
Duchesne River near Tabiona, Utah.....	352	1918-
Rock Creek:		
South Fork Rock Creek near Hanna, Utah.....	a/14	1953-
Rock Creek near Hanna, Utah.....	a/120	1949-
Rock Creek (East Creek) near Mountain Home, Utah...	149	1904*; 1937-
Duchesne River at Duchesne, Utah.....	a/660	1917-
Strawberry River:		
Strawberry River and Willow Creek ditches near Heber, Utah.....	-	1949-
Hobble Creek:		
Upper Hobble Creek ditch near Heber, Utah.....	-	1949-52.
Hobble Creek ditch near Heber, Utah.....	-	1952-
McDonald Creek:		
Lower Hobble Creek ditch near Heber, Utah....	-	1949-52.
Strawberry tunnel at West Portal, near Thistle, Utah.....	-	1922-25†; 1922-25h/; 1932-45†; 1932-45h/; 1945-
Strawberry Reservoir near Soldier Springs, Utah..	a/170	1913- †
Strawberry River above mouth of Indian Creek, in Strawberry Valley, Utah.....	132	1909-10.
Indian Creek:		
Trail Hollow Creek in Strawberry Valley, Utah..	a/21	1909-10.
Indian Creek in Strawberry Valley, Utah.....	a/50	1905-6; 1909-10.
Strawberry River (Creek) below mouth of Indian Creek, in Strawberry Valley, Utah.....	182	1903-6; 1909.
Strawberry River near Soldier Springs, Utah.....	a/1/42	1942-
Willow Creek near Soldier Springs, Utah.....	a/44	1943-47.
Red Creek above Narrows, Utah.....	-	1904.
Red Creek near Fruitland, Utah.....	a/89	1917-22; 1955-
Currant Creek below Red Ledge Hollow, near Fruitland, Utah.....	a/48	1904; 1945-
Water Hollow near Fruitland, Utah.....	a/15	1946-
Currant Creek near Fruitland, Utah.....	142	1934-
Strawberry River at Duchesne (Theodore), Utah.....	a/1/1,040	1908-10; 1914-
Antelope Creek near Myton, Utah.....	-	1917-21.
Lake Fork (West Fork of Lake Fork) above Moon Lake, near Mountain Home, Utah.....	a/78	1933-34; 1942-55.
Brown Duck Creek near Mountain Home, Utah.....	a/15	1933-34; 1942-55.
Moon Lake Reservoir near Mountain Home, Utah.....	108	1937-
Lake Fork below Moon Lake (West Fork of Lake Fork), near Mountain Home, Utah.....	a/110	1904; 1921-34; 1942-
Yellowstone Creek below Swift Creek, near Altonah, Utah.....	a/99	1949-55.
Yellowstone Creek (East Fork of Lake Fork), 8 miles above Forks, Utah.....	-	1904.*
Yellowstone Creek near Altonah, Utah.....	131	1944-
Yellowstone Creek near Mountain Home, Utah.....	143	1943-44.
Lake Fork (below Forks) near Altonah (Whiterocks), Utah.....	-	1904; 1907-10; 1917-20.
Lake Fork near Upalco, Utah.....	418	1942-55.
Lake Fork (Creek) near Myton, Utah.....	468	1900-1903; 1907-36.
Duchesne River at Myton (at Price road bridge), Utah..	a/2,750	1899-
Uinta River below Gilbert Creek, near Neola, Utah..	a/33	1950-55.
Uinta River above Clover Creek, near Neola, Utah...	132	1945-55.
Clover Creek near Neola, Utah.....	a/9.5	1950-55.
Uinta River near Neola, Utah.....	181	1921-27; 1929-
Uinta River near Whiterocks, Utah.....	218	1899-1904; 1907-10; 1917-20.
Farm Creek near Whiterocks, Utah.....	a/22	1949-
Whiterocks River above Paradise Creek, near Whiterocks, Utah.....	a/90	1945-55.
Paradise Creek near Whiterocks, Utah.....	a/10	1946-55.
Whiterocks River (Creek) near Whiterocks (in canyon), Utah.....	115	1899-1904; 1907-10; 1913-30m/; 1930-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

h/ Daily discharge record in files of Geological Survey, Salt Lake City, Utah.

1/ Exclusive of 132 sq mi above dam on Strawberry River and 38 sq mi above dams on Indian and Trail Hollow Creeks, from which areas most of the runoff is diverted to Strawberry Reservoir by feeder canal.

1/ Inclusive of the 170 sq mi described in footnote 1/.

m/ In files of State engineer of Utah.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Green River basin--Continued		
Duchesne River--Continued		
Uinta River--Continued		
Deep Creek near Lapoint, Utah.....	a/75	1942-45; 1949-55.
Dry Gulch near Neola, Utah.....	-	1950-
Uinta River at (near) Fort Duchesne, Utah.....	672	1899-1904; 1905-10†; 1917-20‡; 1942-
Uinta River at Ouray School, Utah.....	-	1899-1904‡.
Duchesne River near Randlett, Utah.....	a/3,920	1942-
White River (North Fork White River):		
Marvine Creek near Buford, Colo.....	a/30	1903-6.
White River (North Fork White River) at (near) Buford, Colo.....	a/240	1903-6; 1910-13; 1914-15†; 1919-20†; (1914-15; 1919-20)b/; 1951-
South Fork White River near Buford, Colo.....	156	1903-6; 1910-13; 1914-15†; (1914-15)b/; 1942-47.
South Fork White River at (near) Buford, Colo.....	a/170	1919-20†; (1919-20)b/; 1951-
White River near (at) Meeker, Colo.....	762	1901-6; 1909-13; 1913-33†; (1914-33)b/; 1933-
White River at Whiteriver, Colo.....	-	1895*; (1896*)b/.
Piceance Creek at Rio Blanco, Colo.....	a/9	1952-
Piceance Creek near Rio Blanco, Colo.....	153	1940-43.
White River near Watson (Dragon), Utah (Rangely, Colo.).....	a/4,020	1904-6; 1918†; (1918)b/; 1923-33†; (1923-33)b/; 1933-
Green River near Ouray, Utah.....	-	1947-55.
Willow Creek above diversions, near Ouray, Utah.....	-	1950-55.
Willow Creek near Ouray, Utah.....	967	1947-55.
Minnie Maud Creek near Myton, Utah.....	a/30	1950-55.
Minnie Maud Creek at Nutter Ranch, near Myton, Utah..	231	1947-55.
Price River:		
Gooseberry Creek:		
Fairview ditch near Fairview, Utah.....	-	1949-
Gooseberry Creek near Scofield, Utah.....	16.4	1930-31; 1940-
Price River (Fish Creek) above Scofield Reservoir, near Scofield, Utah.....	a/62	1931-32; 1938-
Scofield Reservoir near Scofield, Utah.....	163	1926-41‡m/; 1941-
Price River (Fish Creek) near Scofield, Utah.....	163	1917-21; 1925-31; 1938-
White River:		
North Fork White River near Soldier Summit, Utah.	23.3	1942-47.
White River near Soldier Summit, Utah.....	a/53	1938-
Price River near Heiner, Utah.....	455	1934-
Price River near Helper, Utah.....	a/530	1894-95*; 1904-34.
Price River near Wellington, Utah.....	a/850	1949-
Price River at Woodside, Utah.....	a/1,500	1909-11; 1945-
Green River at Green River (Blake, Elgin, Little Valley), Utah.....	a/40,600	1894-99; 1904-
Saleratus Wash at Green River, Utah.....	-	1948-
Browns Wash near Green River, Utah.....	-	1949-
Ten Mile Wash:		
Crescent Wash Reservoir, Utah.....	19.0	1954- c/
Huntington Creek (head of San Rafael River):		
Flat Canyon:		
Boulger Creek near Fairview, Utah.....	a/1.9	1938-49.
Left Fork Huntington Creek:		
Staker Canyon:		
Candland ditch near Mt. Pleasant, Utah.....	-	1949-
Huntington Creek near Huntington, Utah.....	188	1909-
Huntington Creek near Castle Dale, Utah.....	325	1911-21.
Cottonwood Creek:		
Beck Creek (head of Seely Creek) near Ephraim, Utah.....	a/5	1931-32.
Ephraim tunnel near Ephraim, Utah.....	-	1949-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

b/ In reports of State engineer of Colorado.

c/ Storm runoff for summer season only (report in preparation).

m/ In files of State engineer of Utah.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Green River basin--Continued		
Huntington Creek--Continued		
Cottonwood Creek--Continued		
Beck Creek--Continued		
Olsens Canyon:		
Horseshoe tunnel near Ephraim, Utah.....	-	1949-
Larsen tunnel near Ephraim, Utah.....	-	1949-
Lowery Fork (head of Lowery Water):		
Potters Canyon:		
Coal Fork ditch near Mt. Pleasant, Utah....	-	1949-
Bulger Canyon:		
Twin Creek tunnel near Mt. Pleasant, Utah..	-	1949-
Black Canyon:		
Black Canyon ditch near Spring City, Utah..	-	1949-
Cedar Creek tunnel near Spring City, Utah..	-	1949-
Tributary to Black Canyon:		
Spring City tunnel near Spring City, Utah.....	-	1949-
Reeder Canyon:		
Reeder ditch near Spring City, Utah.....	-	1949-
Seely Creek near Orangeville, Utah.....	a/150	1953- d/
Cottonwood Creek near Orangeville, Utah.....	a/200	1909-27; 1932-
Cottonwood Creek near Castle Dale, Utah.....	261	1947-
Ferron Creek:		
Big Bear Creek:		
North Fork Big Bear Creek:		
John August ditch near Ephraim, Utah.....	-	1949-
Madsen ditch near Ephraim, Utah.....	-	1949-
Ferron Creek (upper station) near Ferron, Utah.....	157	1911-23; 1947-
Ferron Creek near Ferron, Utah.....	-	1909-11.
Ferron Creek near Castle Dale, Utah.....	a/210	1911-14; 1947-
San Rafael River near Castle Dale, Utah.....	927	1947-
San Rafael River near Green River, Utah.....	a/1,690	1909-20; 1945-
Dirty Devil River basin		
Fremont River (head of Dirty Devil River) below Fish Lake, near Fremont, Utah.....	a/27	1939-45.
Fremont River near Fremont, Utah.....	a/205	1949-
Fremont River near Bicknell (Thurber), Utah.....	776	1909-12; 1937-
Muddy Creek near Emery, Utah.....	a/89	1909-14; 1949-
Muddy Creek (lower station) near Emery, Utah.....	114	1911-14.
Ivie Creek above diversions, near Emery, Utah.....	a/43	1950-
Ivie Creek near Emery, Utah.....	-	1911*.
Muddy Creek below Ivie Creek, near Emery, Utah.....	-	1950-
Dirty Devil River near Hanksville, Utah.....	a/3,490	1945-48.
Dirty Devil River near Hite, Utah.....	-	1948- d/
North Wash basin		
North Wash near Hite, Utah.....	-	1950-
White Canyon basin		
White Canyon near Hite, Utah.....	a/330	1950- d/
Colorado River at Hite, Utah.....	a/76,600	1947-
Escalante River basin		
North Creek (head of Escalante River) near Escalante, Utah.....	a/94	1950-55.
Birch Creek near Escalante, Utah.....	-	1950-51.
Birch Creek at mouth, near Escalante, Utah.....	a/100	1951-55.
Pine Creek near Escalante, Utah.....	a/100	1950-55.
Escalante River (Creek) near Escalante, Utah.....	315	1909-13; 1942-55.
Boulder Creek:		
East Fork Boulder Creek near Boulder, Utah.....	a/20	1950-55.
Deer Creek:		
East Fork Deer Creek near Boulder, Utah.....	a/.9	1950-55.
Boulder Creek (below Deer Creek) near Boulder, Utah..	a/170	1950-55.
Escalante River at mouth, near Escalante, Utah.....	a/2,010	1950-55.
San Juan River basin		
San Juan River near Pagosa Springs, Colo.....	86.9	1935-
West Fork San Juan River above Borns Lake, near Pagosa Springs, Colo.....	41.2	1937-53.
Wolf Creek:		
Treasure Pass ditch at Wolf Creek Pass, Colo.....	-	1929- †

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

d/ In files of Geological Survey, Salt Lake City, Utah.

Note.-Many stations operated in 1938 on ditches in the San Juan River basin are not listed herein. Records for those stations are published in WSP 859.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
San Juan River basin--Continued		
West Fork San Juan River near Pagosa Springs, Colo...	87.9	1935-
Turkey Creek near Pagosa Springs, Colo.....	23.0	1937-49.
San Juan River at Pagosa Springs, Colo.....	298	1910-12†; 1912-14; 1935-
Rio Blanco near Pagosa Springs, Colo.....	58.0	1935-
Rito Blanco near Pagosa Springs, Colo.....	23.3	1935-52.
Navajo River at Banded Peak Ranch, near Chromo, Colo.	69.8	1936-
Navajo River near Chromo, Colo.....	118	1935-38.
Navajo River at Chromo, Colo.....	130	1911-12.
Little Navajo River at Chromo, Colo.....	21.9	1935-52.
Navajo River at Edith, Colo.....	165	1912-14; 1914-28†; (1914-28) <u>b/n</u> /; 1929-35**; 1935-
San Juan River at Arboles, Colo.....	<u>a/1,340</u>	1895-99†; 1910-14; 1915-20†; (1915-20) <u>b/n</u> /.
Piedra River:		
Piedra Pass ditch (Harley Fuchs ditches 1 and 2) at Piedra Pass, Colo.....	-	1940- †
Piedra River at Bridge ranger station, near Pagosa Springs, Colo.....	82.3	1936-41; 1946-54.
Williams Creek:		
Squaw Pass ditch at Squaw Pass, Colo.....	-	1938- †
Williams Creek near Bridge ranger station, near Pagosa Springs, Colo.....	43.7	1936-41; 1946-49.
Weminuche Creek near Bridge ranger station, near Pagosa Springs, Colo.....	53.4	1936-41; 1946-49.
Piedra River near (at) Piedra, Colo.....	371	1911-12†; 1938-39†; 1939-
Piedra River at Arboles, Colo.....	<u>a/650</u>	1895-99†; 1910-14; 1915-27†; (1915-27) <u>b</u> /; (1915-24; 1926-27) <u>n</u> /.
San Juan River at Rosa, N. Mex.....	<u>a/1,990</u>	1895-99†; 1910-30†; (1920-30) <u>b</u> /; (1920-24; 1926-30) <u>n</u> /; 1930-
Los Pinos River:		
North Fork Los Pinos River:		
Fuchs ditch at Weminuche Pass, Colo.....	-	1937- †
Rincon La Vaca Creek:		
Raber-Lohr ditch at Weminuche Pass, Colo.....	-	1937- †
Los Pinos (Pine) River near Weminuche Pass, Colo.....	10.5	1937.
Los Pinos (Pine) River below Snowslide Canyon, near Weminuche Pass, Colo.....	25.3	1937-41; 1944-54.
Vallecito Reservoir near Bayfield, Colo.....	-	1941- †
Los Pinos (Pine) River near Bayfield, Colo.....	284	1927-33†; (1927-33) <u>b</u> /; 1933-
Los Pinos River at (near) Ignacio, Colo.....	448	1899-1903†; 1910-14; 1915-30†; (1915-30) <u>b</u> /; (1915-24; 1926-30) <u>n</u> /; 1930-
Los Pinos River at La Boca, Colo.....	<u>a/510</u>	1951-
Spring Creek at La Boca, Colo.....	58	1951-
San Juan River below Navajo dam site, near		
Archuleta, N. Mex.....	<u>a/3,240</u>	1954-
Citizens ditch near Turley, N. Mex.....	-	1938; 1951- †
San Juan River near (at Turley) (at) Blanco, N. Mex....	<u>a/3,560</u>	1907-9; 1910*†; 1927-30†; (1927-30) <u>n</u> /; 1930-55.
San Juan River at (near) Bloomfield, N. Mex.....	<u>a/5,410</u>	1909*†; 1910-11; 1927-31†; (1927-31) <u>n</u> /.
Animas River at Howardsville, Colo.....	55.9	1935-
Animas River at Silverton, Colo.....	69.8	1903.
Cement Creek near Silverton, Colo.....	13.5	1935-37; 1946-49.
Mineral Creek near Silverton, Colo.....	43.9	1935-49.
Animas River above Tacoma, Colo.....	348	1945-
Animas River at Tacoma, Colo.....	378	1908-9; 1911*.
Hermosa Creek at Hermosa Park, Colo.....	37.8	1940-42.
Hermosa Creek near Hermosa, Colo.....	172	1911*†; 1912-14†; 1919-28†; (1920-28) <u>b</u> /; 1939-40†; 1940-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

** Yearly figures of discharge only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

n/ In reports of State engineer of New Mexico.

Note.—Many stations operated in 1938 on ditches in the San Juan River basin are not listed herein. Records for those stations are published in WSP 859.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
San Juan River basin--Continued		
Animas River at Durango, Colo.....	692	1895-1900; 1901*; 1902-5; 1910*; 1911-14; 1915-33†; (1915-24; 1926-33)n/; (1917-33)b/; 1933-
Lightner Creek near Durango, Colo.....	a/66	1927-33†; (1927-33)b/; 1933-49.
Animas River (below Lightner Creek) near Durango, Colo.....	-	1910*; (1911)b/.
Florida River near Durango, Colo.....	a/96	1899; 1901-3; 1910-12; 1917-24†; (1917-24)b/; 1926-33†; (1927-33)b/; 1933-
Animas River near Cedar Hill, N. Mex.....	a/1,090	1933-
Animas River at Aztec, N. Mex.....	a/1,270	1904; 1907-14; 1915†; (1915)n/.
Animas River at (near) Farmington, N. Mex.....	a/1,360	1904-5; 1912-14; 1915-30†; (1915-24; 1926-30)n/; 1930-
San Juan River at (near) Farmington, N. Mex.....	a/7,240	1904; 1905-6*; 1912-14; 1915-30†; (1915-18; 1921-24; 1926-30)n/; 1930-
La Plata River at Hesperus, Colo.....	a/37	1904-6†; 1910; 1917-33†; (1917-33)b/; 1933-
Cherry Creek near Red Mesa, Colo.....	a/66	1928-33†; (1928-33)b/; 1933-50.
La Plata River at Colorado-New Mexico State line (near Pendleton, N. Mex.).....	331	1920-33†; (1920-33)b/; 1933-
La Plata River at (near) La Plata, N. Mex.....	351	1905-14*; (1926-27*; 1928-30)n/; 1928-30†; 1930-34; 1936-37.
La Plata River near Farmington, N. Mex.....	583	1938-
San Juan River at Ship Rock, N. Mex.....	a/12,900	1911; 1927-30†; (1927-30)n/; 1930-
West Mancos River near Mancos, Colo.....	42.1	1910-11; 1938-53.
East Mancos River near Mancos, Colo.....	11.1	1937-38†; 1938-51.
Middle Mancos River near Mancos, Colo.....	13.7	1937-38†; 1938-51.
Mancos River near Mancos, Colo.....	a/73	1921†; 1931-33†; (1921; 1931-33)b/; 1933-38.
Mancos River at Mancos, Colo.....	a/83	1898-99; 1900-1901*; 1922-24†; (1922-24)b/.
Mancos River near Towaoc, Colo.....	a/550	1920-33†; (1921-33)b/; 1933-43; 1951-
McElmo Creek near Cortez, Colo.....	233	1926-29†; (1926-29)b/; 1940-43; 1943-45†; 1950-54.
McElmo Creek near Colorado-Utah State line.....	a/350	1951-
North Fork Montezuma Creek (North Fork of North Montezuma Creek) (head of Montezuma Creek) at Monticello, Utah.....	10.5	1914-16.
Gordon Canal near Monticello, Utah.....	-	1914-15.
Wood High-line Canal near Monticello, Utah.....	-	1914-15.
North Canal near Monticello, Utah.....	-	1914-15.
Middle Canal near Monticello, Utah.....	-	1914-16.
South Fork Montezuma Creek (South Fork of North Montezuma Creek) at Monticello, Utah.....	a/15	1914-15.
Pioneer Canal near Monticello, Utah.....	-	1914-15.
South Canal near (at) Monticello, Utah.....	-	1914-16.
Christensen Canal near Monticello, Utah.....	-	1915.
Spring (Vaga) Creek near Monticello, Utah.....	a/8.5	1914-16.
Davenport & Campbell Canal near Monticello, Utah.	-	1914-16.
Green Canal near Monticello, Utah.....	-	1914-16.
Verdure (South Montezuma) Creek near Verdure, Utah.	a/8	1914-15.

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† Monthly figures of discharge or contents only.

a/ Approximately.

b/ In reports of State engineer of Colorado.

n/ In reports of State engineer of New Mexico.

Note.-Many stations operated in 1938 on ditches in the San Juan River basin are not listed herein. Records for those stations are published in WSP 859.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
San Juan River basin--Continued		
Chinle Creek:		
Beautiful Valley Tank, Ariz.....	0.52	1945-48o/.
San Juan River near Bluff, Utah.....	a/23,000	1914-17; 1917-27†; 1927-
Colorado River at Lees Ferry, Ariz.....	a/107,900	1895-1910**; 1911-21†; 1921-
Paria River basin		
Paria River:		
Tropic and East Fork Canal near Tropic, Utah.....	-	1949-
Henrieville Creek near Henrieville, Utah.....	a/29	1950-55.
Paria River near Cannonville, Utah.....	a/220	1950-55.
Paria River at Lees Ferry, Ariz.....	a/1,570	1923-
Transmountain diversions from upper Colorado River basin		
Transmountain diversions from Colorado River basin above Compact point, near Lees Ferry, Ariz.....	-	1895-1903†; 1904-30**; 1931- †
Colorado River at Compact point, near Lees Ferry, Ariz....	a/109,500	1913- †
Little Colorado River basin		
Little Colorado River above Lyman Reservoir, near St. Johns, Ariz.....	747	1940-
Lyman Reservoir near St. Johns, Ariz.....	790	1940-
Lyman Canal below Lyman Reservoir, near St. Johns, Ariz.....	-	1950-
Little Colorado River below Lyman Reservoir, near St. Johns, Ariz.....	790	1941-
Little Colorado River at St. Johns, Ariz.....	940	1906-7; 1907-8*; 1909; 1929-33; 1935-40.
Little Colorado River above Zuni River, near Hunt, Ariz.....	3,684	1940-
Zuni River at Blackrock, N. Mex.....	692	1903-10**; 1910-30†.
Oak Creek Reservoir, N. Mex.....	a/9.4	1954- c/
Little Colorado River near Hunt, Ariz.....	6,282	1929-33; 1940-
Silver Creek at power plant, near Shumway, Ariz.....	85	1942-45†.
Rocky Arroyo near Shumway, Ariz.....	79	1942-45†.
Daggs Reservoir and Mexican Lake near Shumway, Ariz..	170	1942-55†.
Silver Creek near Shumway, Ariz.....	172	1942-45†; 1945-55.
Show Low Creek near Lakeside, Ariz.....	66.2	1955-
Lake Show Low near Show Low, Ariz.....	67.2	1953- †
Forestdale Creek diversion from Show Low Creek, near Show Low, Ariz.....	-	1953-
Show Low Creek below (at) Jaques Dam (site), near (Lakeside) Show Low, Ariz.....	67.2	1941-45†; 1953-55†; 1955-
Show Low Creek at Show Low, Ariz.....	87.4	1941-44†; 1944-55.
Silver Creek at Snowflake, Ariz.....	452	1906; 1907-8*.
Silver Creek (at canyon station) near Snowflake, Ariz.	886	1906*; 1915-16*; 1950-
Silver Creek near Woodruff, Ariz.....	942	1929-33; 1935-52.
Little Colorado River at (near) Woodruff, Ariz.....	8,101	1905-7; 1908*; 1915-16*; 1916-17†; 1917-19; 1929-33; 1935-
Woodruff ditch near Woodruff, Ariz.....	-	1906*.
Puerco River at Gallup, N. Mex.....	558	1940-46.
Black Creek near Houck, Ariz.....	648	1943-45†.
Puerco River near Adamana, Ariz.....	2,757	1940-49.
Little Colorado River at Holbrook, Ariz.....	11,318	1905-7; 1907-9*; 1949-
Chevelon Fork below Wildcat Canyon, near Winslow, Ariz.....	275	1947-
Chevelon Fork near Winslow, Ariz.....	1,008	1905*; 1906; 1907-8*; 1915-16†; 1916-19; 1929-34; 1935-
Clear Creek below Willow Creek, near Winslow, Ariz...	321	1947-
Clear Creek near Winslow, Ariz.....	607	1906; 1907-9*; 1929-34; 1935-
Salt Creek near Winslow, Ariz.....	287	1939-41.
Little Colorado River near Winslow, Ariz.....	16,068	1954-
Little Colorado River seepage investigation.....	-	1954.
Little Colorado River at Grand Falls, Ariz.....	21,178	1925-49; 1950†; 1950-51; 1953-
Moenkopi Wash near (Tuba City) (Tuba) Cameron, Ariz..	2,594	1926-
Little Colorado River near Cameron, Ariz.....	26,495	1947-

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† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

c/ Storm runoff for summer season only (report in preparation).

o/ Average yearly runoff only, published in Circular 110.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Colorado River (at Bright Angel Creek) near Grand Canyon, Ariz.....	a/137,800	1922-
Bright Angel Creek basin		
Bright Angel Creek near Grand Canyon, Ariz.....	98.4	1923-
<u>Tributaries between Bright Angel Creek and Virgin River</u>		
Mohawk Canyon:		
Thornton Tank, Ariz.....	a/.6	1944-48o/.
Peach Springs Canyon:		
Diamond Creek:		
Blue Mountain Canyon:		
Blue Mountain Tank, Ariz.....	.88	1944-48o/.
Spencer Canyon:		
Plain Tank, Ariz.....	13.6	1944-47o/.
Lost Creek (Clay Tank Canyon):		
Clay Tank, Ariz.....	22.9	1944-48o/.
<u>Virgin River basin</u>		
<u>Virgin River:</u>		
North Fork Virgin (Mukuntuweap) River (Zion Creek) near Springdale, Utah.....	336	1913-14; 1923; 1924-
Virgin River at Virgin, Utah.....	934	1909-
Ash Creek near New Harmony, Utah.....	146	1939-47.
Ash Creek above Toquerville, Utah.....	-	1941-42†.
Ash Creek at Toquerville, Utah.....	-	1915.
Leeds (Quail) Creek near Leeds, Utah.....	a/16	1915-17; 1917-20*; 1920.
Santa Clara River:		
Santa Clara-Pinto diversion near Pinto, Utah.....	-	1953-
Santa Clara River (Creek) near Central, Utah.....	a/97	1909-30; 1938-
Moody Wash near Veyo, Utah.....	a/33	1955-
Santa Clara River (Creek) above Winsor Dam, near Santa Clara, Utah.....	338	1942-
Town Canal at Santa Clara, Utah.....	-	1915*.
Santa Clara River (Creek) at Santa Clara, Utah.....	431	1915.
St. George and Santa Clara North Canal at Santa Clara, Utah.....	-	1915*.
St. George and Santa Clara South Canal at Santa Clara, Utah.....	-	1915*.
Santa Clara River (Creek) near St. George, Utah.....	502	1909-13.
Santa Clara River at St. George, Utah.....	a/540	1950-
Virgin River near St. George, Utah.....	a/3,820	1950-
Mesquite Canal near Mesquite, Nev.....	-	1951-55.
Bunkerville Canal near Bunkerville, Nev.....	-	1951-55.
Virgin River at Littlefield, Ariz.....	a/5,090	1929-
Muddy River:		
White River near Preston, Nev.....	-	1914.
Muddy River (at Home Ranch) near Moapa, Nev.....	a/p/3,860	1913-17; 1918†; 1928-32†; 1948-
Muddy River above Moapa River Indian Reservation, near Moapa, Nev.....	a/p/3,890	1914-17; 1918†.
Muddy River at railroad pumping plant, near Moapa, Nev.....	a/p/3,900	1914-17.
Muddy River at Weiser Ranch, near Moapa, Nev.....	a/p/4,360	1915-17.
Meadow Valley Wash near Panaca, Nev.....	a/450	1944-49.
Meadow Valley Wash near Caliente, Nev.....	-	1951-
Muddy River near Glendale (Logan, Moapa), Nev.....	a/p/8,120	1904-6*; 1910; 1913-14; 1949-
Muddy River near Overton (St. Thomas), Nev.....	a/p/q/8,180	1913-16; 1947-54.
<u>Diversions from Lake Mead</u>		
Diversions to Henderson, Nev.....	-	1941-†
Diversions to Boulder City, Nev.....	-	1933-†
Lake Mead at Hoover (Boulder) Dam, Ariz.-Nev.....	a/167,800	1935-40r/; 1940-
Colorado River below Hoover (Boulder) Dam (near Willow Beach), Ariz.-Nev.....	a/167,800	1933-
Colorado River at Bulls Head, near Mohave, Ariz.....	-	1902-3*.
Lake Mohave at Davis Dam, Ariz.-Nev.....	a/169,300	1949-
Colorado River (at Hardyville) below Davis Dam, Ariz.-Nev.....	a/169,300	1905-7; 1949-

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† Monthly figures of discharge or contents only.

a/ Approximately.

o/ Average yearly runoff only, published in Circular 110.

p/ Includes White River and Pahrnagat Valleys, which are noncontributing.

q/ 200 square miles greater at site 1913-16 near St. Thomas.

r/ Includes figures of daily elevation.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Colorado River at Needles, Calif.....	a/170,600	1931- **
Colorado River near Topock, Ariz.....	a/172,300	1917- ; 1938- r/
Bill Williams River (Williams River) basin		
Bill Williams River (Williams River):		
Santa Maria River:		
Kirkland Creek at Yava, Ariz.....	335	1940-42+.
Date Creek near Congress, Ariz.....	127	1939-44.
Santa Maria River near Alamo, Ariz.....	a/1,520	1939-
Bill Williams River (Williams River) near Alamo, Ariz..	a/4,730	1939-
Bill Williams River (Williams River) at Planet (near Swansea), Ariz.....	a/5,140	1910-12*; 1913-14†; 1914-15; 1928-46.
Havasu Lake (Parker Reservoir) near Parker Dam, Ariz.-Calif.....	a/178,800	1938- r/
Diversion from Havasu Lake		
Colorado River aqueduct near Parker Dam, Ariz.-Calif...	-	1939-41; 1941- †
Colorado River below Parker Dam (near Parker), Ariz.-Calif.....	a/178,800	1934-
Diversions between Parker Dam and Imperial Dam		
Colorado River Indian Reservation Main Canal (Diversions for Colorado River Indian Reservation) near Parker, Ariz.....	-	1915-36**; 1937- †
Palo Verde Canal near Blythe, Calif.....	-	1922-23†; 1925-50†; 1950-
Colorado River at Imperial Dam (near Picacho, Calif.), Ariz.-Calif.....	a/184,600	1903-33**; 1934-42; 1942- †
Gila River basin		
Gila River near Silver City, N. Mex.....	1,520	1912-14; 1915-19†; (1915-19)n/.
Gila River near Gila, N. Mex.....	1,864	1914; 1927-30†; (1927-30)n/; 1930-
Gila River near Cliff, N. Mex.....	2,438	1942-51.
Gila River near (Cliff) Red Rock, N. Mex.....	s/2,829	1904-5*; 1905-6; 1907-8*; 1908-10; 1911-12*; 1912-14; 1915-21†; 1921-22**; 1922-23†; 1923-26**; 1927-30†; (1915-21; 1921-23; 1927-30)n/; 1930-55.
Gila River below Blue Creek (at Fuller's Ranch, near Duncan, Ariz.), near Virden, N. Mex.....	s/3,203	1914-15; 1922*; 1927-31†; 1931-
Diversions from Gila River in Duncan Valley, N. Mex.-Ariz.....	-	1936- †
Sunset Canal near Virden (Duncan, Ariz.), N. Mex.....	-	1914-15†; 1922-31; 1936-38†; 1939-
Sunset Canal above New Mexico-Arizona State line, near Virden, N. Mex.....	-	1939-51.
Sunset Canal wasteway near Virden, N. Mex.....	-	1939-51.
Gila River at Virden Bridge, near Duncan, Ariz.....	s/3,272	1923-27*; 1927-31.
Casper and Martin Canal near Duncan, Ariz.....	-	1914-15*.
Casper-Windham Canal near Duncan, Ariz.....	-	1914-15†; 1922-27.
New Model (Moddle)(Moddle-Shriver) Canal near Virden (Duncan, Ariz.), N. Mex.....	-	1914-15†; 1922-31; 1936-38†; 1939-
New Model (Moddle) Canal at New Mexico-Arizona State line, near Virden, N. Mex.....	-	1939-52.
Shriver Canal at Virden, N. Mex.....	-	1936-38†; 1939-48.
Valley Canal near Virden (Duncan, Ariz.) N. Mex.....	-	1914-15†; 1923-31; 1936-38**; 1939-50.
Gila River at New Mexico-Arizona State line, near Virden (Duncan, Ariz.), N. Mex.....	s/3,349	1939-49.
Railroad Wash:		
Stanford No. 1 Reservoir, N. Mex.....	a/5.0	1953- c/
Duncan Canal near Duncan, Ariz.....	-	1923-28; 1936- **
Black & McClesky Canal at Duncan, Ariz.....	-	1915*; 1923-31; 1936- **
Colmonero Canal near Duncan, Ariz.....	-	1914-15*; 1923-31; 1936- **
York Canal at York, Ariz.....	-	1914-15*; 1923-31*; 1936- **

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† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

** Figures of daily elevation only.

a/ Approximately.

c/ Storm runoff for summer season only (report in preparation).

n/ In reports of State engineer of New Mexico.

r/ Includes figures of daily elevation.

s/ Not including Animas Creek basin.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Gila River below Duncan, Ariz.....	3,600	1926-31*.
Gila River at York, Ariz.....	3,850	1923-31*.
Gila River near Clifton (at Guthrie), Ariz.....	4,010	1910-18; 1927-33; 1933-35†; 1935-
Davis Tank, Ariz.....	.81	1945-48o/.
San Francisco River near (at) Alma, N. Mex.....	1,546	1904-7; 1908*; 1909-10; 1911*; 1912-14.
Whitewater Creek near Mogollon, N. Mex.....	a/34	1909-14; 1915-23†; (1915-23)n/.
San Francisco River near Glenwood, N. Mex.....	1,653	1927-30†; (1927-30)n/;
San Francisco River at (dam above) Clifton, Ariz.....	2,766	1930-1910-18; 1927-33; 1933-35†; 1935-
Eagle Creek:		
Willow Creek diversion from Black River, near Morenci, Ariz.....	-	1945-
Willow Creek near Point of Pines, near Morenci, Ariz.....	102	1944-
Willow Creek near Double Circle Ranch, near Morenci, Ariz.....	149	1944-
Eagle Creek near Double Circle Ranch, near Morenci, Ariz.....	377	1944-
Eagle Creek above pumping plant, near Morenci, Ariz..	613	1944-
Pumpage to Clifton and Morenci from San Francisco River and Eagle Creek, near Morenci, Ariz.1/.	-	1944- †
Gila River below Bonita Creek, near Solomon (Solomonsville), Ariz.....	7,856	1932-33; 1933-35†; 1935-40.
Gila River at head of Safford Valley, near Solomon (Solomonsville), Ariz.....	7,896	1914-32†; 1932-33; 1933-35†; 1935-
Diversions from Gila River in Safford Valley, Ariz...	-	1936- †
Brown Canal (above wasteway) near Solomon (Solomonsville), Ariz.....	-	1914-15†; 1920-32; 1936- **
Brown Canal wasteway near Solomon (Solomonsville), Ariz.....	-	1920-29.
Brown Canal below wasteway, near Solomon (Solomonsville), Ariz.....	-	1914-15†; 1920-29†.
Gila River near Solomon (Solomonsville), Ariz.....	7,896	1914-32; 1940-50.
Tidwell (Michelana) Canal near Solomon (Solomonsville), Ariz.....	-	1914-15†; 1920-31; 1936- **
Fourness Canal near Solomon (Solomonsville), Ariz....	-	1914-15†; 1920-31; 1936- **
San Jose Canal near Solomon (Solomonsville), Ariz....	-	1914-15†; 1920-31; 1936- **
Montezuma Canal near Solomon (Solomonsville), Ariz....	-	1914-15†; 1920-31; 1936- **
Union Canal near Solomon (Solomonsville), Ariz.....	-	1914-15†; 1921-31; 1936- **
San Simon Creek near Rodeo, N. Mex.....	507	1920-25.
Cave Creek near Paradise, Ariz.....	a/39	1919-25.
Cave Creek Canal near Paradise, Ariz.....	-	1919-25.
East Turkey Creek at Paradise, Ariz.....	a/8.2	1919-25.
San Simon Creek near San Simon, Ariz.....	814	1919-25; 1931-33; 1935-41.
Parks Lake basin:		
Unnamed tributary:		
Kennedy Tank, Ariz.....	.97	1945-48o/.
San Simon Creek near Solomon (Solomonsville), Ariz...	2,192	1931-32; 1935-
Unnamed tributary:		
Lone Star Tank, Ariz.....	.07	1945-48o/.
Graham Canal near Safford, Ariz.....	-	1914-15†; 1920-31; 1936- **
Gila River at Safford, Ariz.....	10,459	1940-49.
Oregon Canal near Thatcher, Ariz.....	-	1914-15†.
Smithville Canal near Thatcher, Ariz.....	-	1914-15†; 1920-31; 1936- **
Gila River and canals across valley section near Thatcher, Ariz.....	-	1943-44.
Bryce Canal near Pima, Ariz.....	-	1914-15*.
Dodge Canal at Pima, Ariz.....	-	1914-15*.
Dodge-Nevada Canal near Pima, Ariz.....	-	1920-31; 1936- **
Nevada Canal near Pima, Ariz.....	-	1914-15†.
Curtis (Curtis-Kempton) Canal near Eden (Fairview), Ariz.....	-	1914-15†; 1920-31; 1936- **

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** Yearly figures of discharge only.

a/ Approximately.

n/ In reports of State engineer of New Mexico.

o/ Average yearly runoff only, published in Circular 110.

1/ Published with records for Eagle Creek above pumping plant, near Morenci.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Gila River basin--Continued		
Gila River and canals across valley section near Glenbar, Ariz.....	-	1943-44.
Colvin-Jones Canal near Fort Thomas, Ariz.....	-	1936- **
Miscellaneous direct pumping from Gila River in Safford Valley, Ariz.....	-	1936- **
Port Thomas (Consolidated) Canal at Ashurst (near Fairview), Ariz.....	-	1914-15†; 1920-31; 1936- **
Gila River near Ashurst, Ariz.....	10,913	1920-33*.
Gila River and canals across valley section at Fort Thomas, Ariz.....	-	1943-44.
Gila River at Black Point, near Geronimo, Ariz.....	11,329	1943-45.
Gila River at Calva, Ariz.....	11,470	1929-
Gila River seepage investigations.....	-	1916; 1917; 1943-44.
San Carlos River:		
Ash Creek:		
Sweetmeat Draw:		
Juniper Tank, Ariz.....	a/2.0	1945-48o/.
Unnamed tributary:		
Tufa Stone Tank, Ariz.....	15.4	1945-48o/.
San Carlos River near Peridot (at San Carlos) (near mouth), Ariz.....	1,058	1910-11*; 1914-15; 1929-
San Carlos Reservoir at Coolidge Dam, Ariz.....	12,886	1928-
Gila River below Coolidge Dam (at and near San Carlos) (at Coolidge Dam), Ariz.....	12,886	1899-1905; 1910-11*; 1914-
Gila River at Winkelman, Ariz.....	13,268	1917-18; 1928-33*; 1941-
San Pedro River at Palominas, Ariz.....	741	1930-33; 1935-41; 1950-
San Pedro River at Charleston (near Lewis Springs) (near Fairbank), Ariz.....	1,219	1904-6; 1910-12*; 1912-26; 1926-28†; 1928-33; 1934-35†; 1935-
San Pedro River at Fairbank, Ariz.....	1,682	1926-28.
San Pedro River near Redington, Ariz.....	2,939	1943-47; 1950-
San Pedro River near Mammoth, Ariz.....	3,599	1931-41.
Aravaipa Creek near Feldman, Ariz.....	542	1919-21; 1931-42.
San Pedro River at Winkelman (Dudleyville), Ariz.....	4,483	1890†; 1928-41*.
Gila River at Kelvin, Ariz.....	18,011	1911-
Gila River at the Buttes, Ariz.....	18,300	1889-90; 1895-99†.
Gila River at Ashurst-Hayden Dam, near Florence, Ariz..	18,305	1923- *
Florence-Casa Grande Canal near Florence, Ariz.....	-	1928- †
Florence Canal near Florence, Ariz.....	-	1914-15†.
O. T. Canal near Florence, Ariz.....	-	1914-15†.
Price and Powell ditch near Florence, Ariz.....	-	1914-15*.
Pierson-Nicholas Canal near Florence, Ariz.....	-	1914-15†.
Gila River near Florence, Ariz.....	-	1914*.
Queen Creek at Whitlow dam site (at Whitlow's Ranch), near Superior, Ariz.....	144	1896†; 1897-99**; 1915*; 1915-20†; 1948-
Queen Creek near Florence Junction, Ariz.....	192	1939-41.
Gila River near Laveen, Ariz.....	20,615	1940-46; 1947-
Santa Cruz River near Lochiel, Ariz.....	82.2	1949-
Santa Cruz River near Nogales, Ariz.....	532	1907*; 1909-12*; 1913-22; 1930-33; 1934**; 1935-
Nogales Wash at Nogales, Ariz.....	a/37	1932-34.
Sonoita Creek near Patagonia, Ariz.....	209	1930-33; 1935-
Santa Cruz River at Continental, Ariz.....	1,662	1940-46; 1951-
Santa Cruz River at Tucson, Ariz.....	2,207	1905-6; 1907-9†; 1910; 1911-17†; 1918-
Tucson Arroyo at Vine Ave., Tucson, Ariz.....	t/27.0	1944-
Rillito Creek:		
Sabino Creek at upper dam site, near Tucson, Ariz.....	29.3	1936.
Sabino Creek near Tucson, Ariz.....	35.5	1904-12†; 1932-
Rillito Creek near Wrightstown, Ariz.....	221	1940-45.
Pantano Wash:		
Rincon Creek near Tucson, Ariz.....	44.8	1952-
Pantano Wash near Tucson, Ariz.....	604	1940-41.
Rillito Creek near Tucson, Ariz.....	918	1908-17†; 1917-

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** Yearly figures of discharge only.

a/ Approximately.

o/ Average yearly runoff only, published in Circular 110.

t/ Includes about 17 sq mi, runoff from which is diverted out of basin above station.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Gila River basin--Continued		
Santa Cruz River at Cortaro (Rillito), Ariz.....	3,503	1939-47; 1950-
Brawley Wash:		
Alhambra Wash:		
Alhambra Reservoir, Ariz.....	6.61	1946-48 _o /.
Santa Rosa Wash at Gu Komelik, near Sells, Ariz....	629	1954-
Kohatk Wash near Chiapuk, near Sells, Ariz.....	185	1954-
Santa Rosa Wash near Valva Vo, near Sells, Ariz....	1,782	1954-
Santa Cruz River near Laveen, Ariz.....	8,581	1940-46; 1947-
Black River (head of Salt River):		
Willow Creek diversion from Black River, near		
Morenci, Ariz.....	-	1945-
Black River below pumping plant, near Point of		
Pines, Ariz.....	560	1953-
Turkey Creek near Fort Apache, Ariz.....	12.7	1955-
Black River near Fort Apache, Ariz.....	1,231	1912-15; 1915-16†; 1916-18.
White River near McNary, Ariz.....	65.9	1945-54.
Post Office Canyon:		
Post Office Tank, Ariz.....	.29	1945-48 _o /.
White River (North Fork White River) at White		
River, Ariz.....	357	1916-22.
East Fork White River at Fort Apache, Ariz.....	135	1912-20.
Rock Creek near Fort Apache, Ariz.....	20.3	1955-
White River at Fort Apache, Ariz.....	499	1912-20; 1921-22.
White River at Wanslee's Ranch, near Fort Apache,		
Ariz.....	632	1917-18.
Salt River:		
Carrizo Creek:		
Corduroy Creek above Forestdale Creek, near Show		
Low, Ariz.....	57.0	1952-
Forestdale Creek:		
Forestdale Creek diversion from Show Low		
Creek, near Show Low, Ariz.....	-	1953-
Forestdale Creek near Show Low, Ariz.....	33.4	1952-
Corduroy Creek near mouth, near Show Low, Ariz...	213	1951-
Carrizo Creek near Show Low, Ariz.....	459	1951-
Unnamed tributary:		
Hill Top Tank, Ariz.....	10.6	1945-48 _o /.
Salt River near Chrysotile, Ariz.....	2,849	1924-
Salt River below Cherry Creek, near Roosevelt, Ariz..	4,008	1906.
Salt River near Roosevelt, Ariz.....	4,306	1913-
Tonto Creek above Gun Creek, near Roosevelt, Ariz..	675	1940-
Tonto Creek near Roosevelt, Ariz.....	838	1913-40.
Tonto Creek at Roosevelt, Ariz.....	1,050	1901-3; 1904*.
Salt River at Roosevelt (at reservoir site) (near		
Livingstone), Ariz.....	5,824	1888-1903†; 1904-7; 1910-13†.
Reservoir system on Salt River at and below		
Roosevelt Dam, Ariz.....	6,232	1910-34†; 1934-
Salt River 50 miles above Phoenix, Ariz.....	-	1890.
Salt River below Stewart Mountain Dam, Ariz.....	6,232	1930-34†; 1934-
Salt River at McDowell, Ariz.....	6,260	1895-99†; 1901-3†; 1904-9; 1910†.
Verde River:		
Granite Creek near Prescott, Ariz.....	39.6	1932-41; 1941-44†; 1944-47.
Willow Creek near Prescott, Ariz.....	25.2	1932-37.
Verde River near Clarkdale, Ariz.....	3,537	1915-21.
Oak Creek near Cornville, Ariz.....	357	1940-45; 1948-
Verde River at Camp Verde, Ariz.....	4,234	1912*; 1913-20.
Beaver Creek at Camp Verde, Ariz.....	433	1912-20.
Verde River near Camp Verde, Ariz.....	5,024	1934-45.
Verde River (near Camp Verde) at Childs, near		
Camp Verde, Ariz.....	5,113	1911-12*; 1913-14; 1914-17*.
Fossil Creek near Camp Verde, Ariz.....	89.9	1913*.
Fossil Creek diversions to Childs powerplant,		
near Camp Verde, Ariz.....	-	1952-
Verde River below East Verde River, near Pima, Ariz.	5,623	1934-41.
Verde River below Tangle Creek, above Horseshoe		
Dam, Ariz.....	5,872	1945-
Verde River above Bartlett Reservoir, near Cave		
Creek, Ariz.....	6,065	1938-45.

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† Monthly figures of discharge or contents only.

_o/ Average yearly runoff only, published in Circular 110.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Gila River basin--continued		
Salt River--Continued		
Verde River--Continued		
Reservoir system on Verde River at and below Horseshoe Dam, Ariz.(Bartlett Reservoir at Bartlett Dam).....	6,185	1939-
Verde River (above Camp Creek) below Bartlett Dam, (near McDowell), Ariz.....	6,188	1888-1903†; 1904-
Unnamed Wash:		
Black Hills Tank, Ariz.....	1.56	1945-48o/.
Diversions for city of Phoenix from Verde River, at McDowell, Ariz. (Published at 5-year intervals.).....	-	1922- † 1888-91†; 1895†.
Salt River at Arizona Dam (below Verde River), Ariz..	12,890	
Diversions from Salt River at Granite Reef Dam, Ariz. (Published at 5-year intervals.).....	-	1913- †
Agua Fria River near Mayer, Ariz.....	588	1940-
Agua Fria River at Lake Pleasant Dam (near Glendale), Ariz.....	1,459	1910-14*; 1914-19; 1919-24*; 1933- †
Lake Pleasant at Lake Pleasant Dam, Ariz.....	1,459	1928-37**; 1938-
Buckeye Canal near Avondale, Ariz.....	-	1953-
Hassayampa River near Wagoner, Ariz.....	78.7	1940-46.
Hassayampa River at Walnut Grove, near Wagoner, Ariz.	90.8	1912-15; 1915-17*; 1917-18.
Hassayampa River at Box dam site, near Wickenburg, Ariz.....	417	1938; 1946-
Hassayampa River at Wickenburg, Ariz.....	685	1910-12*.
Hassayampa River near Morristown, Ariz.....	774	1938-47.
Centennial Wash:		
Unnamed tributaries:		
Yuma Tank.....	-	1945-48o/.
Mesquite Tank.....	u/10	1945-48o/.
Gila River above diversions at Gillespie Dam, Ariz.....	49,620	1935-38†; 1939-
Gila Bend (Gillespie) Canal at Gillespie Dam, Ariz...	-	1935-41; 1941- †
Enterprise Canal at Gillespie Dam, Ariz.....	-	1935-39*; 1939-41; 1941- †
Gila River below (at) Gillespie Dam, Ariz.....	49,620	1921-
Gila River near Sentinel, Ariz.....	a/51,590	1913-15; 1916-17*.
Gila River near (at) Dome (Gila City), Ariz.....	a/58,080	1903-29†; 1929-
Colorado River at Yuma, Ariz.....	a/242,900	1878-1901*; 1902-
Colorado River and Pilot Knob wasteway at Rockwood gate, Calif.....	a/243,000	1934-36**; 1937-45†; 1945-50.
Colorado River at (northerly) international boundary (near Yuma, Ariz.) above Morelos Dam, near Andrade, Calif.....	a/243,500	1948-49†; 1950-
Diversions and return flows at and below Imperial Dam		
Gila Gravity Main Canal at Imperial Dam, Ariz.-Calif...	-	1943-
All-American Canal near Imperial Dam, Ariz.-Calif.....	-	1938†; 1939-
Diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant, Calif.....	-	1947- †
Yuma Main Canal at siphon-drop powerplant, near Yuma, Ariz.....	-	1926-38†; 1938-
Diversions from Yuma Main Canal between siphon- drop powerplant and Yuma Main Canal wasteway, Calif.2/.....	-	1940- †
Yuma Main Canal wasteway at Yuma, Ariz.....	-	1913-30†; 1930-
Yuma Main Canal below Colorado River siphon, at Yuma, Ariz.....	-	1924-38†; 1938-
Diversion from Yuma Main Canal for municipal supply for Yuma, Ariz.3/.....	-	1945- †
All-American Canal above Pilot Knob wasteway, Calif....	-	1938-
Pilot Knob wasteway near Pilot Knob, Calif.....	-	1939-43†; 1944-
All-American Canal below Pilot Knob wasteway, Calif....	-	1939-41.
Yuma Canal (Yuma Main Canal) at Laguna Dam, Ariz.-Calif.....	-	1910-30†; 1930-34; 1934-48†.

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† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

o/ Average yearly runoff only, published in Circular 110.

u/ About.

2/ Published with "Yuma Main Canal at siphon-drop powerplant, near Yuma, Ariz." since October 1947.

3/ Published with "Yuma Main Canal below Colorado River siphon, at Yuma, Ariz."

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Colorado River--Continued		
Diversions and return flows at and below Imperial Dam--Continued		
North Gila Valley Canal at Laguna Dam, Ariz.-Calif.....	-	1935-51†.
Canal wasteways and drain from North Gila Valley, Ariz.4/.....	-	1944-51†; 1951- v/
Diversions from Colorado River by pumping, at Yuma, Ariz.....	-	1904-5†; 1907**; 1908-12†; 1913**.
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* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

o/ Average yearly runoff only, published in Circular 110.

v/ In files of Geological Survey, Tucson, Ariz.

4/ Published with "Diversions at Laguna Dam "or "North Gila Valley Canal at Laguna Dam, Ariz.-Calif."

5/ Published with "Return surface flows from Yuma project, Ariz.-Calif.", since October 1938.

6/ Drains to Gulf of California through Sonora, Mexico.

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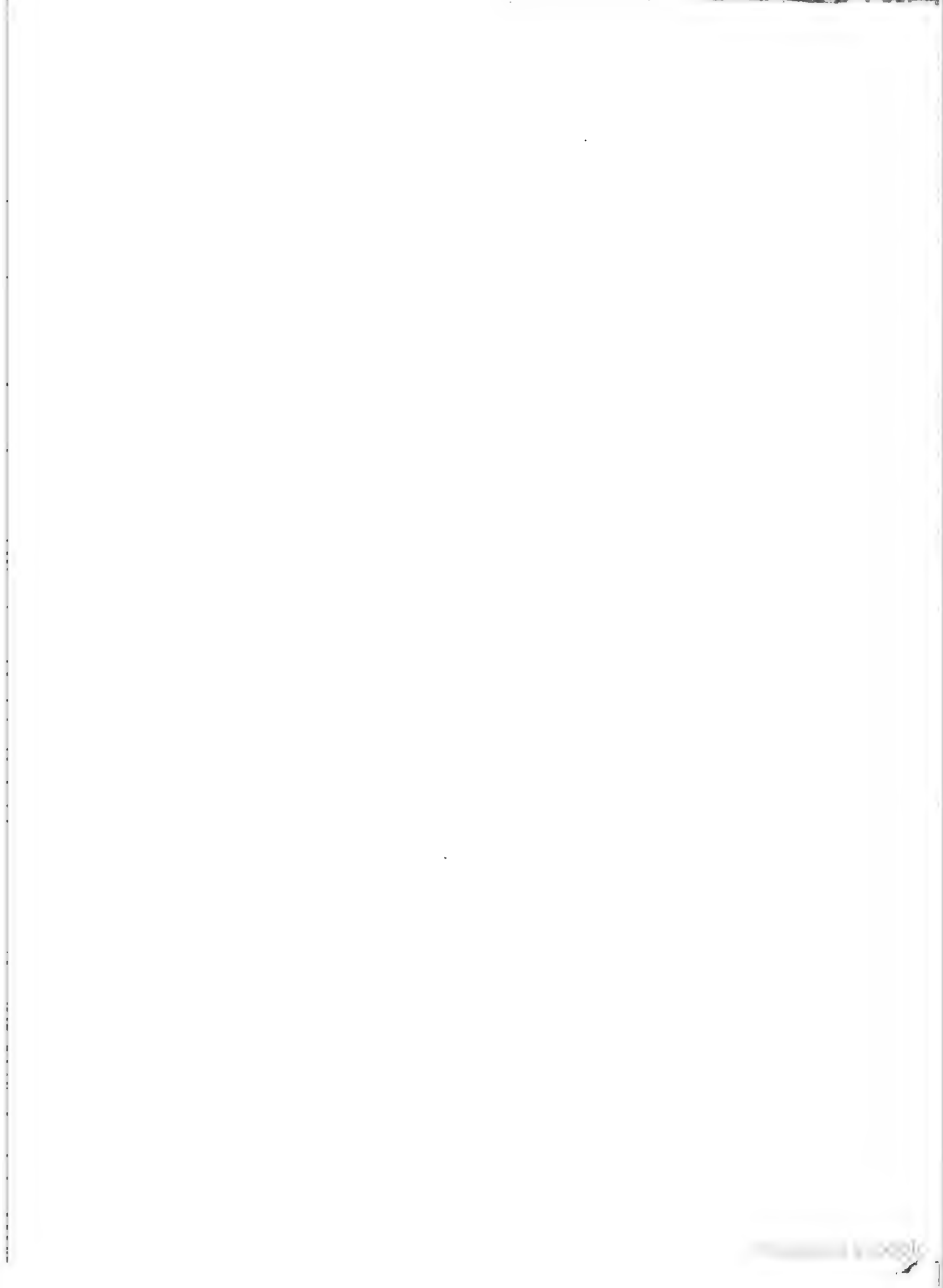
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Slater Fork, Roaring Fork of, Colo.....	11	Twin Lakes tunnel, Colo.....	4
Smith Fork, Colo.....	6	Twin Reservoir, East, Colo.....	8
Smith Fork, Wyo.....	10	Twin Reservoir, West, Colo.....	8
Smith Fork, East Fork of, Wyo.....	10	Twomile Creek, Colo.....	8
Smith Fork, West Fork of, Wyo.....	10		
Smithville Canal, Ariz.....	21	Uinta River, Utah.....	13-14
Snake River, Colo.....	3	Uncompahgre River, Colo.....	7
Snake River, Little, Colo.-Wyo.....	11-12	Union Canal, Ariz.....	21
Snake River, Little, Middle Fork, Colo.....	11	Upper Hanks silt trap, Colo.....	8
Snake River, Little, South Fork, Colo.....	11	Upper Hobbie Creek ditch, Utah.....	13
Snowmass Creek, Colo.....	5	Upper Oilwell Reservoir, Colo.....	8
Soda Creek, Colo.....	11	Utah Power & Light Co.'s tailrace, Utah.....	12
Sonoita Creek, Ariz.....	22		
South Canal, Utah.....	17	Vaga Creek. <u>See</u> Spring Creek.	
Southeast Reservoir, Colo.....	8	Vallecito Reservoir, Colo.....	16
South Fork or Branch. <u>See</u> name of main		Valley Canal, Ariz.-N. Mex.....	20
stream.		Vasquez Creek, Colo.....	2
South Montezuma Creek. <u>See</u> Verdure Creek.		Verde River, Ariz.....	23-24
South Piney Creek, Wyo.....	9	Verde River, diversion for city of Phoenix	
South Ranch Creek, Colo. <u>See</u> Ranch Creek,		from, Ariz.....	24
South Fork.		Verde River, reservoir system on, Ariz.....	24
Spring Creek ditch, Colo. <u>See</u> Tabor ditch.		Verdure Creek, Utah.....	17
Spring City tunnel, Utah.....	15	Vermilion Creek, Colo.....	11
Spring Creek, Colo.....	16	Vernal Milling & Light Co.'s tailrace, Utah.	
Spring Creek, Utah.....	17	<u>See</u> Utah Power & Light Co.'s tailrace.	
Spruce Creek, Colo.....	3	Virgin River, Ariz.-Utah.....	19
Squaw Creek, Wyo.....	10	Virgin River, North Fork, Utah.....	19
Squaw Pass ditch, Colo.....	16		
Stanford No. 1 Reservoir, N. Mex.....	20	Walton Creek, Colo.....	11
Steuben Creek, Colo.....	6	Ward Creek, Colo.....	7
Stillwater Creek, Colo.....	2	Ward Creek, East, Colo.....	7
Straight Creek, Colo.....	4	Ward Creek, West, Colo.....	7
Strawberry Creek, Colo.....	3	Water Hollow, Utah.....	13
Strawberry Reservoir, Utah.....	13	Weminuche Creek, Colo.....	16
Strawberry River, Utah.....	13	West Badger Reservoir, Colo.....	8
Strawberry River and Willow Creek ditches,		West Basin Reservoir, Colo.....	8
Utah.....	13	West Divide Creek, Colo.....	5
Strawberry tunnel, Utah.....	13	West Fork or Branch. <u>See</u> name of main	
Sunnyside Creek, Colo.....	4	stream.	
Sunset Canal, N. Mex.....	20	West Hoosier ditch, Colo.....	3
Sunset Canal wasteway, N. Mex.....	20	West Main Canal, Ariz.....	25
Surface Creek, Colo.....	7	West Mancos River, Colo.....	17
		West Mann Creek, Colo.....	5
Tabeguache Creek, Colo.....	8	West Paradox Creek, Colo.....	8
Tabor ditch, Colo.....	6	West Turkey Creek, Ariz.....	25
Tank 76, Ariz.....	25	West Twin Reservoir, Colo.....	8
Taylor Creek, Colo.....	8	West Ward Creek, Colo.....	7
Taylor River, Colo.....	6	White Canyon, Utah.....	15
Taylor Park Reservoir, Colo.....	6	White River, Ariz.....	23
Tenmile Creek, Colo.....	3	White River, Colo.-Utah (tributary to	
Texas Creek, Colo.....	6	Green River).....	14
Thompson Creek, Colo.....	5	White River, Nev.....	19
Thornton Tank, Ariz.....	19	White River, Utah (tributary to Price River)	
Tidwell (Michelana) Canal, Ariz.....	21	White River, East Fork, Ariz.....	23
Tomichi (Michelana) Canal, Ariz.....	6	White River, North Fork, Utah.....	14
Tongue Creek, Colo.....	7	White River, South Fork, Colo.....	14
Tonto Creek, Ariz.....	23	Whiterocks River, Utah.....	13
Town Canal, Utah.....	19	Whitewater Creek, N. Mex.....	21
Trail Hollow Creek, Utah.....	13	Whitewater Draw, Ariz.....	25

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Williams Creek, Colo.....	16	Willow Creek, Wyo. (tributary to New Fork River).....	9
Williams Fork, Colo.....	11	Willow Creek ditches, Strawberry River and, Utah.....	13
Williams Fork, East Fork, of Colo.....	11	Windy Point Reservoir, Colo.....	8
Williams Fork Reservoir, Colo.....	3	Wisteria Canal, Calif. <u>See</u> Index for Part 10.	
Williams River, Ariz. <u>See</u> Bill Williams River.		Wolf Creek, Utah.....	12
Williams River, Colo. (tributary to Colorado River).....	3	Wood High-line Canal, Utah.....	17
Willow Creek, Ariz. (tributary to Eagle Creek).....	21	Woodruff ditch, Ariz.....	18
Willow Creek, Ariz. (tributary to Granite Creek).....	23	Wurtz ditch, Colo.....	4
Willow Creek, Colo. (tributary to Blue River).....	4	Yampa River, Colo.....	11
Willow Creek, Colo. (tributary to Colorado River).....	2	Yellowstone Creek, Utah.....	13
Willow Creek, Colo. (tributary to Taylor River).....	6	York Canal, Ariz.....	20
Willow Creek, Colo. (tributary to West Divide Creek).....	5	Youngs Creek, Colo.....	7
Willow Creek diversion from Black River, Ariz.....	21, 23	Yucca Reservoir, Colo.....	8
Willow Creek, Utah (tributary to Green River).....	14	Yuma Canal, Ariz.-Calif.....	24
Willow Creek, Utah (tributary to Strawberry River).....	13	Yuma Main Canal, Ariz.....	24
Willow Creek, Wyo. (tributary to Little Snake River).....	12	Yuma Main Canal wasteway, Ariz.....	24
		Yuma municipal supply, diversion for, Ariz..	24
		Yuma project, Ariz.-Calif., return surface flows from.....	25
		Yuma Tank, Ariz.....	24
		Zion Creek. <u>See</u> Virgin River, North Fork.	
		Zuni River, N. Mex.....	18



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INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955

PART 10.—THE GREAT BASIN

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INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 10.—THE GREAT BASIN

By J. S. Gatewood

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 11.—PACIFIC SLOPE BASINS IN CALIFORNIA

By J. S. Gatewood

EXPLANATION

This index lists the streamflow and reservoir stations in the Pacific slope basins in California for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indention and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indention in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 22 to 27.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Tia Juana River basin</u>		
Cottonwood Creek (head of Tia Juana River) at Morena Dam, Calif.....	a/120	1916; 1936-
Pine Valley Creek near Jamul, Calif.....	a/120	1906-7.
Cottonwood Creek at Barrett Dam near Dulzura, Calif.....	a/250	1906-15; 1936-
Dulzura Conduit near Dulzura (Jamul), Calif.....	-	1909-15; 1940-
Cottonwood Creek above Tecate Creek, near Dulzura, Calif....	316	1936-
Tecate Creek:		
Campo Creek near Campo, Calif.....	a/84	1936-
Tia Juana River near Dulzura, Calif.....	478	1936-
Tia Juana River near Nestor, Calif.....	1,668	1914-15; 1936-
<u>Otay River basin</u>		
Jamul Creek (head of Otay River) near Jamul, Calif.....	a/72	1940-
Otay River at Savage Dam, Calif.....	a/98	1936-
<u>Sweetwater River basin</u>		
Sweetwater River near Descanso, Calif.....	43.7	1905-27.
Sweetwater River at Loveland Dam, near Alpine, Calif.....	a/100	1944-
Sweetwater River near Dehesa, Calif.....	112	1913-16.
Sweetwater River at Sweetwater Dam, Calif.....	181	1887-
<u>San Diego River basin</u>		
San Diego River:		
Boulder Creek at Cuyamaca Reservoir near Julian, Calif....	12.0	1912-26; 1935-
Boulder Creek at mouth, near Lakeside, Calif.....	33.5	1912-16; 1919-26.
Cuyamaca Water Co.'s (San Diego) flume at diversion dam, near Lakeside, Calif.....	-	1912-24.
Cuyamaca Water Co.'s (San Diego) flume near Lakeside, Calif.....	-	1907-25.
San Diego River at diversion dam, near Lakeside, Calif.....	102	1912-16..
South Fork flume near Alpine, Calif.....	-	1913-15..
South Fork San Diego River near Alpine, Calif.....	44.5	1913-15.
San Diego River at El Capitan Dam, Calif.....	a/190	1936-
San Diego River near Lakeside, Calif.....	203	1905-16.
San Vicente Creek near Foster, Calif.....	a/66	1941-43.
San Vicente Creek (at Foster) at San Vicente Dam, at Foster, Calif.....	a/75	1915; 1936-41; 1942-
San Diego River near Santee, Calif.....	a/380	1912-
San Diego River at San Diego, Calif.....	434	1912-16.
<u>San Dieguito River basin</u>		
Santa Ysabel Creek (head of San Dieguito River) near Santa Ysabel, Calif.....	12.8	1913-15.
Santa Ysabel Creek at Sutherland Dam (near Mesa Grande), Calif.....	58.0	1912-28; 1936-
Black Canyon Creek near Mesa Grande, Calif.....	15.2	1913-24.
Temescal Creek near Almond, Calif.....	31.5	1913-15.
Santa Ysabel Creek near Ramona, Calif.....	a/110	1912-23; 1943-
Santa Ysabel Creek near San Pasqual (Escondido), Calif.....	128	1905-12; 1947- ***
East San Pasqual ditch near Escondido, Calif.....	-	1912-14.
Quejito Creek near San Pasqual, Calif.....	a/24	1946-
Quejito Creek at San Pasqual (near Escondido), Calif.....	a/28	1915-17; 1946-
West San Pasqual ditch near Escondido, Calif.....	-	1912-15.
Santa Maria Creek near Ramona, Calif.....	a/58	1912-20; 1946-
San Dieguito River near San Pasqual, Calif.....	a/250	1947- ***
San Dieguito River at Bernardo, Calif.....	266	1912-16.
San Dieguito River at Lake Hodges (near Bernardo) (near Escondido), Calif.....	303	1916-
San Dieguito River near Del Mar, Calif.....	328	1913-14.
<u>San Luis Rey River basin</u>		
San Luis Rey River near Warner Springs, Calif.....	35.8	1913-16.
Agua Caliente Creek near Warner Springs, Calif.....	19.2	1913-15. .
Canada Verde Creek near Warner Springs, Calif.....	a/2.8	1913-15.
West Fork San Luis Rey River near Nellie, Calif.....	-	1920-21.
West Fork San Luis Rey River near Warner Springs, Calif...	25.6	1913-16.
Carrizo Creek near Warner Springs, Calif.....	a/4.9	1913-16.
Susanna Creek near Warner Springs, Calif.....	a/4.6	1913-16.
Matagual Creek near Warner Springs, Calif.....	a/9.2	1912-16.
San Luis Rey River at Lake Henshaw, near Mesa Grande, Calif.	209	1905-6; 1911-
San Luis Rey River near Nellie (at diversion flume), Calif..	a/240	1894-99; 1915-16; 1922-24.
Escondido Mutual Water Co.'s canal near Nellie, Calif.....	-	1896-1901; 1902-3; 1904-5; 1905-22.
Rincon Indian Reservation ditch near Valley Center, Calif.	-	1912.
Pauma Creek near Nellie, Calif.....	-	1920-21.
Pauma Creek at Pauma Indian Reservation, near Nellie, Calif.....	-	1920-21.

*** Irrigation season only.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
San Luis Rey River basin--Continued		
Pala Indian Reservation canal at Pala, Calif.....	-	1912-13.
San Luis Rey River near Pala, Calif.....	322	1903-16.
San Luis Rey River below Pala diversion dam, near Pala, Calif.....	326	1944- ***
San Luis Rey River at Pala, Calif.....	-	1912.
San Luis Rey River at Monser e Narrows, near Pala, Calif...	383	1935-41; 1946-
San Luis Rey River at Bonsall, Calif.....	465	1912-16*.
San Luis Rey River near Bonsall, Calif.....	514	1916*; 1929-
San Luis Rey ditch near San Luis Rey, Calif.....	-	1913.
San Luis Rey River at (near) Oceanside, Calif.....	557	1912-15; 1916; 1929-42; 1946-
<u>Santa Margarita River basin</u>		
Temecula Creek (head of Santa Margarita River) at Vail Dam (Nigger Canyon), near Temecula, Calif.....	319	1923-
Murrieta Creek at Temecula, Calif.....	a/220	1930-
Temecula Creek near Temecula, Calif.....	-	1905-6.
Santa Margarita River (Temecula Creek at Railroad Canyon) near Temecula, Calif.....	592	1923-
Santa Margarita River near Fallbrook, Calif.....	645	1924-
Santa Margarita River near De Luz Station, Calif.....	-	1925-26.
O'Neill ditch near Ysidora, Calif.....	-	1930-
Santa Margarita River at Ysidora, Calif.....	a/740	1923-29; 1930-
<u>San Juan Creek basin</u>		
San Juan Creek near (at) San Juan Capistrano, Calif.....	110	1928-
Trabuco Creek near San Juan Capistrano, Calif.....	36.5	1930-
<u>Aliso Creek basin</u>		
Aliso Creek at El Toro, Calif.....	a/8.5	1930-
<u>Peters Canyon Wash basin</u>		
Peters Canyon Wash (Irvine Ranch drainage canal) near Tustin, Calif.....	a/93	1930-40; (1940-)b/
San Diego Creek near Irvine, Calif.....	-	1949-
<u>Santa Ana River basin</u>		
<u>Santa Ana River:</u>		
<u>Bear Creek:</u>		
Big Bear Lake near Big Bear Lake, Calif.....	a/38	(1884-1950)tc/; 1950- †
Southern California Edison Co.'s canal Below powerplant 2, near Mentone, Calif.....	-	1948-49.
Southern California Edison Co.'s canal and Greenspot pipeline near Mentone, Calif.....	-	1896-1950.
Highlands or North Fork Canal at intake weir, San Bernardino County, Calif.....	-	1896; 1898-1904.
Redlands or South Fork Canal at sand-box weir, San Bernardino County, Calif.....	-	1896; 1898-1904.
Santa Ana River near Mentone, Calif.....	202	1896-
Mill Creek at Forest Home, Calif.....	19.9	1903-18.
Mill Creek power canal No. 3, at intake, near Forest Home, Calif.....	-	1922-30.
Mill Creek power canals No. 2 & 3 near Craftonville, Calif.....	-	1919-49.
Mill Creek power canal No. 1 near Craftonville, Calif...	-	1919-49.
Mill Creek near Yucaipa (Craftonville), Calif.....	42.9	1919-38; 1947-
Mill Creek in canyon, near headworks at Crafton Canal, Calif.....	48.8	1896-1905.
Mill Creek near Mentone, Calif.....	51.7	1939-
Plunge Creek near East Highlands, Calif.....	16.6	1919-
Santa Ana River near San Bernardino, Calif.....	-	1928-37; 1954-
<u>San Timoteo Creek:</u>		
Little San Geronimo Creek near Beaumont, Calif.....	2.85	1949-
San Timoteo Creek near Redlands, Calif.....	120	1926-
San Timoteo Creek near Loma Linda, Calif.....	-	1954-
Santa Ana River (at San Bernardino) at E Street Bridge near San Bernardino, Calif.....	-	1916; 1939-54.
<u>Warm Creek:</u>		
East Twin (Strawberry) Creek near Arrowhead Springs, Calif.....	8.89	1919-
Waterman Canyon Creek near Arrowhead Springs, Calif.....	4.55	1911-14; 1919-
<u>City Creek:</u>		
City Creek Water Co.'s canal near Highland, Calif.....	-	1924-49.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

*** Irrigation season only.

a/ Approximately.

b/ In reports of Orange County Flood Control District.

c/ In files of Bear Valley Mutual Water Co.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Santa Ana River basin--Continued		
Warm Creek--Continued		
City Creek near Highland, Calif.....	19.6 ^a	1919-
Devil Canyon Creek near San Bernardino, Calif.....	6.07	1911-12; 1913-14; 1919-
Lytle Creek:		
Fontana pipeline near Fontana, Calif.....	-	1918-21; 1922-40.
Lytle Creek near San Bernardino, Calif.....	41.4	1904-18.
Lytle Creek (and Fontana pipeline) near Fontana, Calif..	46.9	1918-21; 1922-
Lytle Creek at mouth of canyon, near Rialto, Calif.....	47.6	1892-1901.
Cajon Creek near Keenbrook, Calif.....	40.9	1919-
Lone Pine Creek near Keenbrook, Calif.....	15.2	1919-38; 1949-
Lytle Creek at San Bernardino, Calif.....	-	1916.
Lytle Creek (east channel) at San Bernardino, Calif.....	-	1929-
Lytle Creek (west channel) at Colton, Calif.....	-	1929-45.
Meeks and Daley Canal near Colton, Calif.....	-	1920-50.
Warm Creek near Colton, Calif.....	259	1920-
Santa Ana River at Riverside Narrows, near Arlington, Calif.	-	1929-
Day Creek near Etiwanda, Calif.....	4.58	1929-
Santa Ana River at Hamner Avenue, near Corona, Calif.....	-	1930- ***
Santa Ana River at Auburndale bridge, near Corona, Calif....	-	1930- ***
Cucamonga Creek near Upland, Calif.....	10.1	1928-
South Fork San Jacinto River at Hemet Reservoir, near San Jacinto, Calif.....	-	1916.
San Jacinto River near San Jacinto, Calif.....	a/140	1920-
Bautista Creek near Hemet, Calif.....	39.4	1947-
San Jacinto River near Elsinore, Calif.....	717	1916-
Elsinore Lake at Elsinore, Calif.....	-	1915-
Temescal Creek near Elsinore, Calif.....	-	1916-17.
Temescal Creek near Corona, Calif.....	d/127	1929-
Chino Creek:		
San Antonio Creek:		
Southern California Edison Co.'s conduit (canal) near Claremont, Calif.....	-	1917-50.
San Antonio Creek near Claremont (Upland), Calif.....	17.4	1901-
Chino Creek near Prado, Calif.....	128	1929-40.
Santa Ana River below Prado Dam (at Santa Fe Railroad bridge, near Prado) (below Prado Dam, near Prado), Calif.....	-	1930-1939***; 1940-
Santa Ana River at county line, below Prado Dam (near Prado), Calif.....	-	1919-42***; 1945-51***; 1952-
Santa Ana River at heading of Anaheim Union & Santa Ana Canals, near Prado, Calif.....	-	1924; 1926.
Anaheim Union Water Co.'s canal at Gypsum, near Atwood, & Santa Ana Valley Irrigation Co.'s canal at Horseshoe Bend, near Atwood, Calif.....	-	1944-46.
Santiago Creek at Santiago Dam, near Villa Park, Calif....	63.2	1931-
Serrano and Carpenter Canal near Villa Park, Calif.....	-	1920-31.
Santiago Creek near Villa Park, Calif.....	84.7	1920-
Santiago Creek at Santa Ana, Calif.....	96.6	1929-
Santa Ana River at Santa Ana, Calif.....	-	1923-
San Gabriel River basin		
East Fork San Gabriel River above Fish Fork, near Azusa, Calif.....	20.7	1900-1901**; 1910**; 1912**.
Fish Fork of East Fork San Gabriel River near Azusa, Calif.....	a/10	1900-1901**; 1910**; 1912**.
Iron Fork of East Fork San Gabriel River near Azusa, Calif.....	13.7	1900-1901**; 1910**; 1912**.
East Fork San Gabriel River at Camp Bonita, Calif.....	58.2	1927-32.
East Fork San Gabriel River near Camp Bonita, Calif.....	88.2	1932-
West Fork San Gabriel River:		
Bear Creek near Camp Rincon, Calif.....	a/26	1929-36.
North Fork San Gabriel River at Camp Rincon, Calif.....	18.8	1929-36.
West Fork San Gabriel River at Camp Rincon, Calif.....	102	1927-
San Gabriel River at headworks, near Azusa, Calif.....	-	1912-14.
Azusa Canal (Southern California Edison Co.'s canal) near Azusa, Calif.....	-	1896-1937.
San Gabriel River near Azusa, Calif.....	211	1894-

** Low water records only.

*** Irrigation season only.

a/ Approximately.

d/ Excluding San Jacinto River.

Note.-Monthly records for the low-water season of 1900 at 4 sites in San Gabriel River basin are not listed in this index; those records are published in WSP 300.

Gaging station	Drainage area (sq mi)	Period of record
San Gabriel River basin--Continued		
Rogers Creek near Azusa, Calif.....	a/6.4	1916-
Fish Creek near Duarte, Calif.....	a/6.5	1916-
San Gabriel River below Santa Fe Dam, near Baldwin Park, Calif.....	231	1942-
Walnut Creek:		
San Dimas Creek near San Dimas, Calif.....	18.3	1916-
Dalton Creek near Glendora, Calif.....	a/7.5	1919-
Little Dalton Creek near Glendora, Calif.....	a/2.7	1929-
San Jose Creek near Whittier, Calif.....	85.2	(1923-24; 1926-27)e/; 1929-
San Gabriel River at Pico, Calif.....	f/206	1928-
San Gabriel River at Spring Street, near Los Alamitos, Calif.	f/216	(1927-36)g/; 1936-
Coyote Creek:		
Brea Creek below Brea Dam, near Fullerton, Calif.....	23.4	1942-
Brea Creek at Fullerton, Calif.....	26.4	1930-
Fullerton Creek below Fullerton Dam, near Brea, Calif..	3.05	1941-
Fullerton Creek at Fullerton, Calif.....	a/6.2	(1935-39)b/; 1939-
Coyote Creek near Artesia, Calif.....	a/110	(1930-39)g/; 1939-
Carbon Creek at Olinda, Calif.....	20.0	1930-38.
Carbon Creek near Yorba Linda, Calif.....	20.4	1949-
Los Angeles River basin		
Los Angeles River at Sepulveda Dam, Calif.....	155	1943-
Los Angeles River below Sepulveda Dam, Calif.....	157	(1928-40)g/; 1940-45; (1946)g/.
Pacoima Creek near San Fernando, Calif.....	28.2	1916-
Tujunga Creek:		
Mill Creek near Colby Ranch, Calif.....	21.1	1930-34.
Tujunga Creek below Mill Creek near Colby Ranch, Calif....	64.9	1948-
Tujunga Creek near Colby Ranch, Calif.....	66.9	1930-50.
Fox Creek near Colby Ranch, Calif.....	9.35	1930-37.
Tujunga Creek near Sunland, Calif.....	106	1916-
Haines Creek near Tujunga, Calif.....	a/1.2	1917-34; 1935-
Little Tujunga Creek near San Fernando, Calif.....	21.0	1928-
Tujunga Creek below Hansen Dam, Calif.....	148	(1932-40)g/; 1940-
Los Angeles River at Los Angeles, Calif.....	510	1896-1900; 1916; 1929-
Arroyo Seco near Pasadena, Calif.....	16.4	1910-
Los Angeles River near Downey, Calif.....	614	1928-
Rio Hondo:		
Sawpit Creek:		
Monrovia pipeline near Monrovia, Calif.....	-	1916-40.
Sawpit Creek near Monrovia, Calif.....	a/5.3	1916-
Santa Anita Creek near Sierra Madre, Calif.....	10.5	1916-
Little Santa Anita Creek near Sierra Madre, Calif.....	a/1.9	1916-
Eaton Creek near Pasadena, Calif.....	a/6.5	1918-
Rio Hondo near Montebello, Calif.....	f/115	1928-
Mission Creek (Rio Hondo Slough) near Montebello, Calif.	a/6	(1929-32)g/; 1932-
Rio Hondo near Downey, Calif.....	f/140	1928-
Los Angeles River at Long Beach, Calif.....	-	1928-
Ballona Creek basin		
Ballona Creek near Culver City, Calif.....	h/88.6	1928-
Topanga Creek basin		
Topanga Creek near Topanga Beach, Calif.....	17.9	1930-38; 1939-
Malibu Creek basin		
Malibu Creek (Triunfo Creek near Calabasas) above Las Virgenes Creek, near Calabasas, Calif.....	a/72	1903-6.
Malibu Creek near Calabasas, Calif.....	a/97	1903-6.
Malibu Creek at Crater Camp, near Calabasas, Calif.....	103	1931-
Calleguas Creek basin		
Calleguas Creek at Camarillo, Calif.....	249	1928-31; 1954-
Conejo Creek near Camarillo, Calif.....	-	1927-31.
Honda Barranca (head of Revolon Slough) near Somis, Calif.	-	1954-
Beardsley Wash (continuation of Honda Barranca) near Somis, Calif.....	-	1954-
Santa Clara River basin		
Santa Clara River near Saugus, Calif.....	a/410	1929-
Santa Clara River at Los Angeles-Ventura County line, Calif.	651	1952-
Santa Clara River near Piru, Calif.....	-	1927-32.
Piru Creek at Los Alamos dam site, near Gorman, Calif.....	-	1920-21.
Piru Creek (at) near Piru, Calif.....	432	1911-13; 1927-
Hopper Creek near Piru, Calif.....	23.0	1930-32; 1933-36; 1937-

a/ Approximately.

b/ In reports of Orange County Flood Control District.

c/ In reports of California Division of Water Resources.

f/ Area below Santa Fe Dam.

g/ In reports of Los Angeles County Flood Control District.

h/ Not including Sepulveda Creek since 1950.

Note.--Monthly records for low-water periods in 1896, 1897 or 1899, 1900 at 22 sites in Los Angeles River basin are not listed in this index; those records are published in WSP 81 and 300.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Santa Clara River basin--Continued</u>		
Santa Clara River at Fillmore, Calif.....	-	1911-12.
Sespe Creek near Wheeler Springs, Calif.....	a/50	1948-
Sespe Creek near Sespe, Calif.....	216	1915-27.
Fillmore Irrigation Co.'s canal near Fillmore, Calif....	-	1927-32; 1935-51.
Sespe Creek near Fillmore (at Sespe), Calif.....	254	1911-13; 1927-
Santa Paula Creek near Santa Paula, Calif.....	39.8	1912-13; 1927-
Santa Clara River at Montalvo, Calif.....	a/1,600	1927-32; (1949-)1/
<u>Ventura River basin</u>		
Matilija Creek (head of Ventura River) above Reservoir, near Matilija Hot Springs (Matilija), Calif.....	a/51	1947-
Matilija Reservoir at Matilija Hot Springs (Matilija), Calif.....	54.6	1947-
Matilija Creek at Matilija Hot Springs (Matilija), Calif....	55.0	1927-
North Fork Matilija Creek at Matilija Hot Springs (Matilija), Calif.....	15.5	1928-32; 1933-
Ventura River near Ojai (Nordhoff), Calif.....	19.9	1911-14; 1922-24.
San Antonio Creek at Casitas Springs, Calif.....	-	1949-
San Antonio Creek near Ojai, Calif.....	33.9	1927-32.
Coyote Creek near Ventura, Calif.....	41.1	1927-32; 1933-
Ventura River near Ventura, Calif.....	187	1911-14; 1929-
<u>Carpinteria Creek basin</u>		
<u>Carpinteria Creek:</u>		
Gobernador Creek near Carpinteria, Calif.....	-	1916-23.
Carpinteria Creek near Carpinteria, Calif.....	13.8	1941-
<u>Atascadero Creek basin</u>		
Atascadero (Atascadero) Creek near Goleta, Calif.....	18.3	1941-
<u>San Jose Creek basin</u>		
San Jose Creek near Goleta, Calif.....	5.54	1941-
<u>Santa Ynez River basin</u>		
Santa Ynez River at Jameson Lake (Juncal Reservoir), near Montecito, Calif.....	1/13.8	1930-
Mono Creek at Mono dam site, near Santa Barbara, Calif....	123	1903-4.
Santa Ynez River above Gibraltar Dam, near Santa Barbara, Calif.....	216	1903-8; 1910-18; 1920-
Mission tunnel near Santa Barbara, Calif.....	-	1912-17.
Santa Ynez River below Gibraltar Dam, near Santa Barbara, Calif.....	216	1920-41†; 1942-
Santa Ynez River below Los Laureles Canyon, near Santa Ynez, Calif.....	277	1947-
Santa Cruz Creek above Stuke Canyon, near Santa Ynez, Calif.....	65.0	1947-52.
Santa Cruz Creek near Santa Ynez, Calif.....	73.8	1941-
Cachuma Creek near Santa Ynez, Calif.....	20.5	1950-
Cachuma Reservoir near Santa Ynez, Calif.....	412	1954-
Santa Ynez River near Santa Ynez, Calif.....	430	1928-31; 1932-
Santa Agueda Creek near Santa Ynez, Calif.....	55.9	1941-
San Lucas Creek near Santa Ynez, Calif.....	-	1952-54.
Zanja Cota near Santa Ynez, Calif.....	-	1954-
Santa Ynez River at Grand Avenue, near Santa Ynez, Calif....	-	1954-
Santa Ynez at Solvang, Calif.....	579	1928-40***; 1946-
Nojoqui Creek near Buellton, Calif.....	-	1952-54.
Santa Ynez River at Buellton, Calif.....	-	1954-
La Zaca Creek at Buellton, Calif.....	39.5	1941-
Santa Ynez River near Buellton, Calif.....	668	1948-52***; 1953-
Santa Ynez River at Santa Rosa dam site, near Buellton, Calif.....	-	1954-
Santa Ynez River at Cooper's Reef, near Lompoc, Calif.....	-	1954-
Santa Ynez River below Santa Rita Creek, near Lompoc, Calif.	-	1954-
Salsipuedes Creek near Lompoc, Calif.....	47.0	1941-
Santa Ynez River at narrows, near Lompoc, Calif.....	790	1947-52***; 1953-
Santa Ynez River near Lompoc, Calif.....	790	1906-18; 1925-
Santa Ynez River at M Street, near Lompoc, Calif.....	816	1947-
Santa Ynez River at 13th Street, near Lompoc, Calif.....	-	1954-
Santa Ynez River at Pine Canyon, near Lompoc, Calif.....	832	1941-46.
Santa Ynez River at barrier, near Surf, Calif.....	895	1947-
<u>San Antonio Creek basin</u>		
San Antonio Creek at Harris, Calif.....	101	1941-55.

† Monthly figure of discharge or contents only.

*** Irrigation season only.

a/ Approximately.

1/ In reports of Ventura County Water Survey.

1/ Not including Alder Creek.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Santa Maria River basin</u>		
Cuyama River (head of Santa Maria River) near Ventucopa, Calif.....	a/90	1944-
Cuyama River near Santa Maria, Calif.....	912	1929-
Alamo Creek near Santa Maria, Calif.....	87.7	1943-
Huasna River near Santa Maria, Calif.....	119	1929-
Sisquoc River near Sisquoc, Calif.....	a/290	1929-33; 1943-
La Brea Creek near Sisquoc, Calif.....	86.7	1943-
Tepusquet Creek near Sisquoc, Calif.....	28.9	1943-
Sisquoc River near Garey, Calif.....	442	1941-
Santa Maria River near Santa Maria, Calif.....	-	1903-6.
Santa Maria River at Guadalupe, Calif.....	1,763	1941-
<u>Arroyo Grande basin</u>		
Arroyo Grande at Arroyo Grande, Calif.....	106	1939-
<u>San Luis Obispo Creek basin:</u>		
San Luis Obispo Creek:		
Steiner Creek near San Luis Obispo, Calif.....	a/4.1	1942-47***.
<u>Arroyo de la Cruz basin</u>		
Arroyo de la Cruz near San Simeon, Calif.....	41.4	1950-
<u>Sur River basin</u>		
Sur River at Big Sur, Calif.....	46.9	1950-
<u>Salinas River basin</u>		
Salinas River near Pozo, Calif.....	72.5	1942-
Toro Creek near Pozo, Calif.....	a/9.5	1942- **
Salinas Reservoir near Pozo, Calif.....	111	1941-
Salinas River above Pilitas Creek, near Santa Margarita, Calif.....	112	1942-
Salinas River near Santa Margarita, Calif.....	148	1922; 1932-49.
Santa Margarita Creek near Santa Margarita, Calif.....	a/2.4	1942-47***.
Tassajera Creek near Santa Margarita, Calif.....	a/4.4	1942-47***.
Jack Creek near Templeton, Calif.....	25.4	1949-
Salinas River at Paso Robles, Calif.....	559	1939-
Estrella Creek near Paso Robles, Calif.....	678	1939-41.
Estrella Creek near Estrella, Calif.....	922	1954-
Nacimiento River near Bradley, Calif.....	-	1922.
Nacimiento River near San Miguel, Calif.....	354	1939-
San Antonio River at Pleyto, Calif.....	282	1922; 1929-
Salinas River near Bradley, Calif.....	2,522	1948-
San Lorenzo Creek near King City, Calif.....	215	1939-42.
San Lorenzo Creek at King City, Calif.....	262	1912; 1942-46.
Arroyo Seco near Soledad, Calif.....	241	1901-
Salinas River near Spreckels (Salinas), Calif.....	4,231	1900-1901; 1929-
<u>Pajaro River basin</u>		
Pajaro River:		
Pacheco Creek near Dunneville, Calif.....	146	1940-
Llagas Creek near Morgan Hill, Calif.....	19.6	1951-
<u>Carnadero Creek:</u>		
Uvas Creek near Morgan Hill, Calif.....	30.2	1930-
Pajaro River at Sargent, Calif.....	a/490	1940-41.
San Benito River near Hernandez, Calif.....	-	1922-23.
McCoy Creek near Hernandez, Calif.....	-	1922-23.
San Benito River below McCoy Creek, near Hernandez, Calif.	108	1949-53.
San Benito River near Willow Creek School, Calif.....	a/250	1939-
San Benito River near Tres Pinos, Calif.....	-	1922-23.
Tres Pinos Creek near Tres Pinos, Calif.....	209	1939-
Tres Pinos Creek at highway bridge, near Tres Pinos, Calif.....	210	1922-23; 1939-40.
San Benito River near Hollister, Calif.....	586	1949-
Pajaro River near Chittenden, Calif.....	1,188	1939-
Pajaro River at Watsonville, Calif.....	-	1911-13.
<u>Soquel Creek basin</u>		
Soquel Creek at Soquel, Calif.....	40.4	1951-
<u>San Lorenzo River basin</u>		
San Lorenzo River at Big Trees, Calif.....	110	1937-
San Lorenzo River at Santa Cruz, Calif.....	115	1952-
Branciforte Creek at Santa Cruz, Calif.....	18.5	1940-43; 1952-
<u>Scott Creek basin</u>		
Scott Creek near Davenport, Calif.....	-	1939-41.
<u>Pescadero Creek basin</u>		
Pescadero Creek near Pescadero, Calif.....	46.2	1951-

** Low water records only.

*** Irrigation season only.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>San Francisquito Creek basin</u>		
San Francisquito Creek:		
Los Trancos Creek:		
Los Trancos Canal near Stanford University, Calif.....	-	1931-41.
Los Trancos Creek at Stanford University, Calif.....	a/7.5	1931-41.
Lagunita Canal at Stanford University, Calif.....	-	1931-41.
San Francisquito Creek at Stanford University, Calif.....	35.7	1931-41; 1950-
San Francisquito Creek at Menlo Park, Calif.....	38.5	1934-36.
San Francisquito Creek at Palo Alto, Calif.....	38.6	1931-41.
<u>Matadero Creek basin</u>		
Matadero Creek at Palo Alto, Calif.....	8.10	1952-
<u>Stevens Creek basin</u>		
Stevens Creek near Cupertino, Calif.....	18.0	1930-
<u>Guadalupe River basin</u>		
Alamitos Creek (head of Guadalupe River), near Edenvale, Calif.....	35.0	1930-
Guadalupe (Los Capitancillos) Creek at Guadalupe, Calif...	12.7	1930-
<u>Guadalupe River:</u>		
Los Gatos Creek at Los Gatos, Calif.....	38.9	1930-44; 1953-
Los Gatos Creek below Los Gatos, Calif.....	43.0	1944-1953.
Guadalupe River (Creek) at San Jose, Calif.....	151	1930-
Saratoga (Campbell) Creek at Saratoga, Calif.....	a/8.8	1933-
<u>Coyote Creek basin</u>		
Coyote Creek (River) near Madrone, Calif.....	194	1902-12; 1916-
Coyote Creek (River) at Coyote, Calif.....	205	1916-23.
Laguna Seca near Coyote, Calif.....	15.8	1918.
Coyote Creek (River) near Edenvale, Calif.....	229	1916-
Coyote Creek (River) at San Jose, Calif.....	239	1916-17.
<u>Laguna Creek basin</u>		
Laguna Creek at Irvington, Calif.....	-	1916-19.
<u>Alameda Creek basin</u>		
Alameda Creek near Sunol, Calif.....	37.9	1911-29.
Calaveras Creek near Sunol, Calif.....	98.6	1910-29.
San Antonio Creek near Sunol, Calif.....	39.7	1912-29.
<u>Arroyo de la Laguna:</u>		
Alamo Creek at Dublin, Calif.....	39.0	1914-20.
Tassajero Creek near Pleasanton, Calif.....	26.6	1914-19; 1921-29.
Arroyo las Positas near Livermore, Calif.....	64.6	1912-19; 1921-22; 1923-29.
Arroyo Mocho near Livermore, Calif.....	36.7	1912-29.
Arroyo del Valle near Livermore, Calif.....	149	1912-29.
Arroyo de la Laguna near Pleasanton, Calif.....	406	1912-29.
Spring Valley Water Co.'s aqueduct near Niles (Sunol), Calif.....	-	1903-29.
Alameda Creek at Sunol, Calif.....	622	1900-1929.
Alameda Creek at Niles Dam, Calif.....	632	1891-1900.
Alameda Creek near Niles, Calif.....	633	1916-
Grandall Slough near Centerville, Calif.....	-	1916-19.
Alameda Creek near Decoto, Calif.....	638	1918-19.
Dry Creek near Decoto, Calif.....	9.42	1916-19.
<u>San Lorenzo Creek basin</u>		
San Lorenzo Creek at Hayward, Calif.....	38.0	1940; 1946-
<u>San Pablo Creek basin</u>		
San Pablo Creek near San Pablo, Calif.....	32.0	1917-19.
San Pablo Creek at San Pablo, Calif.....	k/41.3	1917-19.
<u>Pacheco Creek basin</u>		
Walnut Creek (head of Pacheco Creek):		
San Ramon Creek at San Ramon, Calif.....	5.89	1952-
San Ramon Creek at Walnut Creek, Calif.....	50.7	1952-
Walnut Creek at Walnut Creek, Calif.....	m/78.1	1952-
<u>Pine Creek:</u>		
Galindo Creek at Concord, Calif.....	6.16	1954-
Pine Creek at Concord, Calif.....	20.8	1952-
Grayson Creek near Hookston, Calif.....	1.94	1954-
<u>Kern River basin</u>		
<u>Kern River:</u>		
Kern River No. 3 Canal near Kernville, Calif.....	-	1921-53.
Kern River near Kernville, Calif.....	865	1912-
Salmon Creek near Kernville, Calif.....	25.8	1922-23.
Kern River at Kernville, Calif.....	1,026	1905-12; 1953-
Borel Canal below Isabella Dam (at Tillie Creek) (Kern River Power Co.'s canal at Kernville), Calif.....	-	1910-14; 1925-
Kern River at Isabella, Calif.....	a/1,070	1910-12; 1925-35.

a/ Approximately.

k/ Including 2.5 sq mi in closed basin in Siesta Valley.

m/ Including 1.2 sq mi in Lafayette Reservoir which is noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Kern River basin--Continued		
South Fork Kern River:		
Lowell ditch near Onyx, Calif.....	-	1929-33.
Thomas ditch near Onyx, Calif.....	-	1929-33.
South Fork Kern River near Onyx, Calif.....	531	1911-14; 1919-42; 1947-
South Fork Kern River at Isabella, Calif.....	985	1910-13; 1929-52.
Isabella Reservoir near Isabella, Calif.....	a/2,080	1953-
Kern River below Isabella (dam site) Dam, Calif.....	a/2,080	1945-
Erskine Creek near Isabella, Calif.....	20.6	1911-13.
Kern River No. 1 conduit near Democrat Springs, Calif.....	-	1950-
Kern River near Democrat Springs, Calif.....	2,264	1950-
Kern River below Kern Canyon powerhouse, Calif.....	2,327	1953-
Kern River at Rio Bravo Ranch, Calif.....	-	1878-84†.
Kern River near Bakersfield, Calif.....	2,420	1893-1953.
Caliente Creek near Caliente, Calif.....	341	1931-32.
Caliente Creek at base of foothills, Kern County, Calif....	-	1878-84†.
Walker Basin Creek (Basin Creek) near Havilah, Calif....	36.2	1911-13.
Tejon House Creek at Tejon ranchhouse, Calif.....	-	1895-96.
San Emigdio Creek at Emigdio ranchhouse, Calif.....	-	1894-95.
Tulare Lake basin		
Tulare Lake in Kings County, Calif.....	-	1906-20*; 1937- *
Poso Creek at base of foothills, Kern County, Calif.....	-	1878-84†.
Poso Creek near Bakersfield, Calif.....	-	1920.
White River at base of foothills, Tulare County, Calif....	-	1878-84†
White River near Hot Springs, Calif.....	-	1911-13.
White River near Ducor, Calif.....	93.7	1944-53.
Deer Creek at Hot Springs, Calif.....	16.9	1910-35.
Tyler Creek near Hot Springs, Calif.....	-	1911-13.
Deer Creek at base of foothills, Tulare County, Calif.....	a/110	1878-84†.
Middle Fork Tule River:		
North Fork of Middle Fork Tule River:		
Pacific Gas and Electric Co.'s conduit near Springville, Calif.....	-	1939-
North Fork of Middle Fork Tule River near Springville, Calif.....	39.5	1909-12; 1939-
South Fork of Middle Fork Tule River near Springville, Calif.....	44.1	1909-12.
North Fork Tule River:		
Bear Creek near Springville, Calif.....	13.1	1911-16.
Tule River near Porterville, Calif.....	266	1901-
South Fork Tule River near Porterville, Calif.....	79.7	1910-25; 1927-32.
South Fork Tule River near Success, Calif.....	105	1930-54.
Tule River at Worth Bridge, near Porterville, Calif.....	395	1953-
Tule River at Porterville, Calif.....	-	1878-84†
Middle Fork Kaweah River:		
Middle Fork Kaweah River No. 3 conduit near Potwisha Camp, Calif.....	-	1948-
Middle Fork Kaweah River near Potwisha Camp (Hammond), Calif.....		
Marble Fork Kaweah River near Ranger, Calif.....	100	1913; 1949-
Marble Fork Kaweah River No. 3 conduit near Potwisha Camp, Calif.....	-	1913.
Marble Fork Kaweah River at Potwisha Camp, Calif.....		
Marble Fork Kaweah River at Potwisha Camp, Calif.....	50.6	1948-
East Fork Kaweah River near Hammond, Calif.....	-	1950-
North Fork Kaweah River near Kaweah, Calif.....	-	1913.
North Fork Kaweah River at Kaweah, Calif.....	128	1913.
South Fork Kaweah River near Three Rivers, Calif.....	72.7	1910-
Kaweah River near Three Rivers, Calif.....	a/520	1911-24.
Kaweah River at Wachumna Hill, Calif.....	619	1903-
Kaweah River at McKay Point, near Lemon Cove, Calif.....	-	1878-84†.
Sand Creek near Orange Cove, Calif.....	a/32	1918-21.
South Fork Kings River near Cedar Grove, Calif.....	409	1944-54.
Kings River near Hume, Calif.....	838	1950-
Kings River above North Fork, Calif.....	956	1921-36; 1951-
North Fork Kings River below Meadowbrook, Calif.....	35.3	1927-28; 1931-
Helms Creek at Sand Meadow, Calif.....	34.1	1921-35.
North Fork Kings River near Cliff Camp, Calif.....	174	1922-35.
Rancheria Creek near Smith Meadow, Calif.....	21.9	1921-
North Fork Kings River below Rancheria Creek, Calif.....	225	1924-35.
North Fork Kings River above Dinkey Creek, Calif.....	246	1927-50.
Dinkey Creek at Dinkey Meadow (near Ockenden), Calif..	50.8	1919-30.
Deer Creek below East Fork, Calif.....	21.1	1910-15; 1921-35.
		1923-35.

* Gage heights or gage heights and discharge measurements only.

† Monthly figure of discharge or contents only.

a/ Approximately.

<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Tulare Lake basin--Continued		
Kings River--Continued		
North Fork Kings River--Continued		
Dinkey Creek at mouth, Calif.....	136	1920-37.
Kings River below North Fork, Calif.....	a/1,350	1951-
Big Creek near Tollhouse, Calif.....	-	1911-13.
Rush Creek near Ockenden, Calif.....	-	1910-13.
Big Creek above Pine Flat Reservoir, Calif.....	69.2	1953-
Sycamore Creek above Pine Flat Reservoir, Calif.....	56.5	1953-
Pine Flat Reservoir near Piedra, Calif.....	1,542	1951-
Kings River below Pine Flat Dam, Calif.....	1,542	1954-
Kings River at Piedra (near Sanger), Calif.....	1,694	1895-
Kings River at Slate Point, Calif.....	-	1878-84†.
Kings River at Kingsburg, Calif.....	-	1891-1904.
Dog Creek near Academy, Calif.....	14.6	1941-43.
Dry Creek near Academy, Calif.....	43.5	1941-43.
Los Gatos Creek above Munez Canyon, near Coalinga, Calif..	95.5	1949-
Los Gatos Creek near Coalinga, Calif.....	105	1931-41.
San Joaquin River basin		
Middle Fork San Joaquin River:		
North Fork San Joaquin River:		
Iron Creek at mouth, Calif.....	5.88	1922-25.
North Fork San Joaquin River below Iron Creek, Calif.....	38.0	1920-28; 1951- †††
San Joaquin (Middle Fork San Joaquin) River at Miller		
Crossing (Bridge), Calif.....	254	1921-28; 1951-
West Fork Granite Creek near Timber Knob (near Cattle		
Mountain), Calif.....	26.5	1922-25.
Middle Fork Granite Creek near Cattle Mountain, Calif...	2.18	1922-23.
East Fork Granite Creek near Cattle Mountain, Calif.....	14.8	1922-25.
Granite Creek near Cattle Mountain, Calif.....	48.8	1921-28; 1952- †††
South Fork San Joaquin River:		
Florence Lake near Big Creek, Calif.....	171	1925-
Ward (Florence Lake) tunnel at intake, Calif.....	-	1925-
South Fork San Joaquin River near Florence Lake, Calif....	171	1921-
Bear Creek near Vermilion Valley, Calif.....	53.5	1921-
Lake Thomas A. Edison near Big Creek, Calif.....	-	1954-
Mono Creek near Vermilion Valley, Calif.....	92.0	1921-
South Fork San Joaquin River near Hoffman Meadow, Calif...	427	1921-28.
Jackass Creek near Jackass Meadow, Calif.....	12.8	1921-28; 1951- †††
Jackass Creek near Fullers Meadow, Calif.....	23.5	1924-25.
West Fork Jackass Creek near Fullers Meadow, Calif.....	10.5	1924-25.
Chiquito Creek near Mugler Meadow, Calif.....	23.1	1924-25.
Chiquito Creek near Arnold Meadow, Calif.....	59.6	1921-28; 1951- †††
San Joaquin River above Big Creek (near Shaver), Calif.....	1,048	1912-15; 1922-
Big Creek:		
Ward (Florence Lake) tunnel at outlet, Calif.....	-	1927-
Huntington Lake near Big Creek, Calif.....	79.7	1913-25†; 1926-
Big Creek near Big Creek (Shaver), Calif.....	79.7	1910-15.
Big Creek below Huntington Lake, Calif.....	80.4	1925-
Pitman Creek below Tamarack Creek, Calif.....	22.7	1927-
Pitman Creek at Big Creek, Calif.....	23.5	1910-15; 1922-28.
Big Creek near mouth, near Big Creek, Calif.....	129	1923-28.
Stevenson Creek:		
Huntington-Shaver conduit at outlet, Calif.....	-	1928-
Shaver Lake near Big Creek, Calif.....	30.3	1910-26†; 1927-
Southern California Edison Co.'s flume at		
Shaver, Calif.....	-	1922-26.
Fresno Flume and Lumber Co.'s upper flume at		
Shaver, Calif.....	-	1915-20.
Fresno Flume and Lumber Co.'s lower flume at		
Shaver, Calif.....	-	1916-19.
Stevenson Creek at Shaver, Calif.....	30.5	1916-20; 1922-28.
San Joaquin River above Willow Creek, near Auberry, Calif...	1,299	1951-
North Fork Willow Creek (North Fork San Joaquin River)		
near North Fork, Calif.....	31.1	1910-11.
Bass Lake (Crane Valley Reservoir) near Bass Lake (North		
Fork), Calif.....	52.1	1910-15; 1916-50†.
Pacific Gas and Electric Co.'s conduit No. 3 near		
Bass Lake (Crane Valley Reservoir), Calif.....	-	1940-
North Fork Willow Creek (Willow Creek) near Bass Lake		
(below Crane Valley Reservoir), Calif.....	52.1	1940-

† Monthly figure of discharge or contents only.

††† No winter record.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
San Joaquin River basin--Continued		
North Fork Willow Creek--Continued		
South Fork Willow Creek:		
South Fork ditch near North Fork, Calif.....	-	1910; 1913.
South Fork Willow Creek (South Fork Creek) near North Fork, Calif.....	38.7	1910-15.
Whiskey Creek near North Fork, Calif.....	12.9	1910-15.
Cascadel Creek near North Fork, Calif.....	1.69	1910-12.
Willow Creek at mouth, near Auberry, Calif.....	130	1952-
San Joaquin River below Kerckhoff powerhouse (near North Fork), Calif.....	1,485	1910-14; 1936-37; 1942-
Big Sandy Creek near Auberry, Calif.....	27.8	1946-51.
Fine Gold Creek near Friant, Calif.....	92.8	1936-
San Joaquin River near Friant, Calif.....	1,632	1907-38.
Millerton Lake at Friant, Calif.....	1,633	1941-
Friant-Madera (Madera) Canal near Friant, Calif.....	-	1943-
Friant-Kern Canal at Friant, Calif.....	-	1949-
San Joaquin River:		
Cottonwood Creek near Friant, Calif.....	a/36	1941-51.
San Joaquin River below Friant, Calif.....	1,675	1938-
Little Dry Creek near Friant, Calif.....	a/58	1941-
San Joaquin River near Hamptonville, Calif.....	-	1878-84†.
San Joaquin River at Herndon, Calif.....	-	1891-1909.
San Joaquin River near Biola, Calif.....	1,805	1952-
Fresno Slough (James) bypass near San Joaquin, Calif.....	-	1947-54.
San Joaquin River near Mendota, Calif.....	a/4,310	1939-54.
Panoche Creek near Panoche, Calif.....	-	1922-23.
Silver Creek near Panoche, Calif.....	-	1922-23.
Panoche Creek below Silver Creek, near Panoche, Calif.....	299	1949-53.
San Joaquin River near Dos Palos, Calif.....	a/5,630	1940-54.
Fresno River:		
North Fork Fresno River near Sugar Pine, Calif.....	-	1910-12*.
Nelder Creek (Fresno River) near Fresno Flats, Calif.....	-	1910-12*.
Fresno River near Knowles, Calif.....	132	1911-13; 1915-
Fresno River near Daulton, Calif.....	270	1941-
Fresno River at base of foothills, Madera County, Calif...	-	1878-84†.
Chowchilla River at Buchanan dam site, Calif.....	238	1921-23; 1930-
Chowchilla River at base of foothills, near Buchanan, Calif.....	-	1878-84†.
San Joaquin River near El Nido, Calif.....	a/6,940	1939-49.
Chamberlain Slough near El Nido, Calif.....	-	1939-49.
Salt Slough near Los Banos, Calif.....	-	1940-
San Joaquin River at Fremont Ford Bridge, Calif.....	a/8,090	(1937-43)e/; 1944-
Mariposa Creek at base of foothills, Mariposa County, Calif.....	-	1878-84†.
Bear Creek at base of foothills, Merced County, Calif.....	-	1878-84†.
Los Banos Creek:		
San Luis Creek near Los Banos, Calif.....	84.7	1949-53.
Merced River above Illilouette Creek, near Yosemite, Calif.....	-	1915-16.
Illilouette Creek near Yosemite, Calif.....	-	1915-16.
Merced River at Happy Isles Bridge, near Yosemite, Calif..	181	1915-
Tenaya Creek near Yosemite, Calif.....	a/47	1904-9; 1912-
Merced River at Yosemite, Calif.....	236	1904-9; 1912-16.
Yosemite Creek at Yosemite, Calif.....	43.2	1904-9; 1912-26.
Merced River at Pohono Bridge, near Yosemite, Calif.....	321	1916-
South Fork Merced River:		
Big Creek near Wawona, Calif.....	-	1910-11*.
South Fork Merced River near Wawona, Calif.....	131	1910-22.
South Fork Merced River near El Portal, Calif.....	239	1950-
Merced River at Bagby, Calif.....	912	1947-
Merced River at Kittridge (Horseshoe Bend), Calif.....	935	1922-47.
Lake McClure at Exchequer, Calif.....	1,020	1926-
Merced River at Exchequer, Calif.....	1,035	1915-
Merced River near Merced Falls, Calif.....	-	1901-13; 1923-26.
Merced River at Merced Falls, Calif.....	-	1878-84†.
Merced River near Livingston, Calif.....	1,245	1922-24; 1925-44.
Merced River at Miliken Bridge, near Newman, Calif.....	-	1921.
Merced River near Stevinson, Calif.....	1,274	1940-
Merced River Slough near Newman, Calif.....	-	1941-
Merced River near Newman, Calif.....	-	1912.
San Joaquin River near Newman, Calif.....	a/9,990	1912-
Orestimba Creek near Newman, Calif.....	135	1932-

* Gage heights or gage heights and discharge measurements only.

† Monthly figure of discharge or contents only.

a/ Approximately.

e/ In reports of California Division of Water Resources.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
San Joaquin River basin--Continued		
Tuolumne River at Hetch Hetchy cabin, near Sequoia, Calif.	-	1910-16.
Falls Creek near Hetch Hetchy (Sequoia), Calif.....	45.2	1915-
Hetch Hetchy Reservoir at Hetch Hetchy, Calif.....	460	1923-30 ⁿ /; 1931-
Tuolumne River at Hetch Hetchy dam site, near Sequoia, Calif.....	-	1910-15.
Tuolumne River near Hetch Hetchy (below Hetch Hetchy dam site near Sequoia), Calif.....	462	1914-
Cherry Creek near Hetch Hetchy (Sequoia), Calif.....	111	1910-
Eleanor Creek:		
Lake Eleanor (Eleanor Creek) near Hetch Hetchy, Calif.	a/79	1919-30 ⁿ /; 1931-
Eleanor Creek near Hetch Hetchy (Sequoia), Calif.....	a/80	1909-
Jawbone Creek near Tuolumne, Calif.....	-	1910-15.
Corral Creek near Groveland, Calif.....	-	1910-13.
South Fork Tuolumne River at Italian Flat, near Sequoia, Calif.....	66.1	1924-30; 1931-33.
South Fork Tuolumne River near Sequoia, Calif.....	69.4	1914-19.
Golden Rock ditch near Sequoia, Calif.....	-	1914-15.
South Fork Tuolumne River near Oakland Recreation Camp, Calif.....	87.6	1923-
Middle Tuolumne River near Mather, Calif.....	50.7	1924-29; 1931-33.
Middle Tuolumne River at Oakland Recreation Camp (near Buck Meadows), Calif.....	71.0	1916-
South Fork Tuolumne River near Buck Meadows (Groveland), Calif.....	71.0	1910-22.
Tuolumne River near Buck Meadows (Groveland), Calif.....	-	1907-36.
Clavey River near Tuolumne, Calif.....	-	1910-13*.
Indian Creek near Tuolumne, Calif.....	-	1910-11*.
Big Creek near Groveland, Calif.....	24.9	1931-33.
North Fork Tuolumne River near Tuolumne, Calif.....	-	1910-11*.
Hunter Creek near Tuolumne, Calif.....	-	1910-13*.
Tuolumne River near Jacksonville, Calif.....	1,352	1923-34.
Woods Creek near Jacksonville, Calif.....	98.4	1925-
Sierra & San Francisco Power Co.'s canal near La Grange, Calif.....	-	1908-26.
Don Pedro Reservoir near La Grange, Calif.....	1,539	1924-30 ⁿ /; 1931-
Tuolumne River above La Grange Dam, near La Grange, Calif.	1,540	1915-
Tuolumne River near La Grange, Calif.....	-	1895-1915.
Modesto Canal near La Grange, Calif.....	-	1903-
Turlock Canal near La Grange, Calif.....	-	1899-
Tuolumne River at Modesto, Calif.....	-	1878-84*; 1891-97*; (1940-43)e/; 1943-
Tuolumne River at Tuolumne City, Calif.....	-	(1930-40)e/; 1940-43.
Middle Fork Stanislaus River (head of Stanislaus River): Relief Reservoir (Relief Creek) near Baker Station, Calif.....	-	1910-18.
Relief Creek near Baker Station, Calif.....	-	1910-18.
Middle Fork Stanislaus River at Kennedy Meadows, Calif....	49.5	1938-
Clark Fork Stanislaus River near Dardanelle, Calif.....	65.7	1950-
Middle Fork Stanislaus River at Sand Bar Flat, near Avery, Calif.....	318	1905-
North Fork Stanislaus River below Silver Creek, Calif....	29.2	1952-
Highland Creek below Spicer Meadows Reservoir, Calif..	a/43	1952-
North Fork Stanislaus River near Avery, Calif.....	163	1914-22; 1928-
Utica Gold Mining Co.'s canal near Avery, Calif.....	-	1914-21.
Rose Creek near Jupiter, Calif.....	-	1910-13
Knights Creek near Jupiter, Calif.....	-	1910-13
South Fork Stanislaus River at Strawberry (Confidence), Calif.....	45.5	1911-17; 1938-
Philadelphia Canal near Strawberry, Calif.....	-	1939-
Tuolumne Canal near Long Barn, Calif.....	-	1937-
South Fork Stanislaus River near Long Barn, Calif.....	67.2	1937-
South Fork Stanislaus River near Columbia, Calif.....	-	1910-12*.
Stanislaus River:		
Melones Reservoir at Melones Dam, Calif.....	897	1927-
Stanislaus River below Melones powerhouse, Calif.....	898	1931-
Stanislaus River near Knights Ferry, Calif.....	972	1915-32.
South San Joaquin Canal near Knights Ferry, Calif.....	-	1914-
Oakdale Canal near Knights Ferry, Calif.....	-	1914-
Stanislaus and San Joaquin Water Co.'s canal at Knights Ferry, Calif.....	-	1904-12.
Stanislaus River at Knights Ferry, Calif.....	-	1903-16.

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

e/ In reports of California Division of Water Resources.

n/ Summary records only, in WSP 881.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
San Joaquin River basin--Continued		
Stanislaus River at Oakdale, Calif.....	-	1878-84†; 1895-1900.
Stanislaus River at Ripon, Calif.....	-	1940-
San Joaquin River near Vernalis, Calif.....	a/14,010	1922-23††; 1924; 1925-29††; 1930-
San Joaquin River at Lathrop (Lower San Joaquin River), Calif..	-	1920-21; 1922††.
Littlejohns Creek (South Channel) at Farmington, Calif....	-	1926.
South Fork Calaveras River:		
San Domingo Creek near San Andreas, Calif.....	27.1	1950-
San Antonio Creek near San Andreas, Calif.....	46.6	1950-
South Fork Calaveras River near San Andreas, Calif.....	118	1950-
Calaveritas Creek near San Andreas, Calif.....	53.3	1950-
North Fork Calaveras River:		
Esperanza Creek near Mokelumne Hill, Calif.....	16.7	1951-
Jesus Maria Creek near Mokelumne Hill, Calif.....	34.7	1950-
North Fork Calaveras River near San Andreas, Calif.....	85.7	1950-
Murray Creek near San Andreas, Calif.....	23.5	1950-
Calaveras River:		
Cosgrove Creek near Valley Springs, Calif.....	20.6	1929-
Calaveras River at Jenny Lind, Calif.....	395	1907-
Calaveras River near Bellota, Calif.....	-	1878-84†.
Calaveras River near Stockton, Calif.....	-	1925-26.
Stockton diverting canal at Stockton, Calif.....	-	1944-53.
Bear Creek near Clements, Calif.....	-	1926-27.
Bear Creek near Lockeford, Calif.....	48.4	1930-33; 1943-
Bear Creek at Harmony School, near Lockeford, Calif.....	-	1926-30
Delta-Mendota Canal near Tracy, Calif.....	-	1951-
North Fork Mokelumne River:		
Salt Springs Reservoir near West Point, Calif.....	160	1931-
Tiger Creek powerhouse conduit below Salt Springs Dam, Calif.....	-	1931-
North Fork Mokelumne River below Salt Springs Dam, Calif..	160	1926-
Cold Creek near Mokelumne Peak, Calif.....	a/23	1927-
Bear River at Pardoe Camp, Calif.....	33.0	1927-51.
Bear River near Salt Springs Dam, Calif.....	a/48	1951-
North Fork Mokelumne River near West Point, Calif.....	272	1917-18; 1923-32.
Middle Fork Mokelumne River at West Point, Calif.....	67.2	1911-
South Fork Mokelumne River near Railroad Flat, Calif..	a/41	1911-34.
Licking Fork Mokelumne River near Railroad Flat, Calif.....	-	1911-17.
South Fork Mokelumne River near West Point, Calif.....	73.8	1933-
Mokelumne River at Electra, Calif.....	-	1901; 1903-4.
Mokelumne River near Mokelumne Hill, Calif.....	538	1927-
Pardee Reservoir near Valley Springs, Calif.....	-	1929-33.
East Bay Municipal Utility District Aqueduct near Valley Springs, Calif.....	-	1929-33.
Mokelumne River at Lancha Plana, Calif.....	584	1926-
Camanche Creek near Camanche, Calif.....	a/4.9	1932-34.
Rabbit Creek near Camanche, Calif.....	a/8.5	1932-34.
Murphy Creek near Clements, Calif.....	a/5.2	1932-34.
Mokelumne River at Lone Star Mill, Calif.....	-	1878-84†.
Mokelumne River near Clements, Calif.....	630	1904-51; 1955-
Mokelumne River near Victor, Calif.....	-	1927-30.
Mokelumne River at Lodi, Calif.....	-	1891-95.
Woodbridge (Stockton-Mokelumne) Canal at Woodbridge, Calif.....	-	1926-
Mokelumne River at Woodbridge, Calif.....	644	1924-25††; 1926-
Mokelumne River near Thornton, Calif.....	690	1926-31.
Dry Creek:		
Sutter Creek near Volcano, Calif.....	a/31	1924-27.
Sutter Creek near Sutter Creek, Calif.....	50.6	1935-41.
Sutter Creek at Sutter Creek, Calif.....	53.2	1922-23; 1925-36.
Dry Creek near Ione, Calif..p/.....	279	1911-12; 1925-32.
Dry Creek at base of foothills, San Joaquin County, Calif..p/.....	-	1878-84†.
Goose Creek near Elliott, Calif.....	a/8.5	1927-33.
Dry Creek near Galt, Calif..p/.....	325	1926-33; 1944-
North Fork Cosumnes River at Cosumnes Mine, Calif.....	36.9	1948-53.
North Fork Cosumnes River near Pleasant Valley, Calif...	-	1924.
Camp Creek near Sly Park, Calif.....	8.61	1923-24.
Camp Creek near Camino, Calif.....	32.4	1948-

† Monthly figure of discharge or contents only.

†† Low water records only.

a/ Approximately.

p/ Dry Creek has been made tributary to Cosumnes River (by levees) under most conditions.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
San Joaquin River basin--Continued		
Mokelumne River--Continued		
North Fork Cosumnes River--Continued		
Camp Creek--Continued		
Park (Sly Park) Creek at Park, Calif.....	18.2	1906.
Park (Sly Park) Creek near Pollock Pines, Calif.....	18.2	1948-55.
Camp Creek near Somerset (Pleasant Valley), Calif.....	62.7	1924; 1954-*
North Fork Cosumnes River near El Dorado, Calif.....	202	1911-41; 1948-
Middle Fork Cosumnes River near Fair Play, Calif.....	-	1913.
Cosumnes River near Plymouth, Calif.....	429	1951-
Cosumnes River at Michigan Bar, Calif.....	537	1907-
Cosumnes River below Michigan Bar, Calif.....	-	1878-84†.
Cosumnes River at McConnell, Calif.....	a/730	1943-
Hadselville Creek at Clay, Calif.....	-	1930-31.
Contra Costa Canal near Oakley, Calif.....	-	1950-
Marsh Creek near Byron, Calif.....	42.5	1953-
Goose Lake (closed basin)		
Drew Creek:		
Dog Creek near Lakeview, Oreg.....	-	1912-13.
Drew (Drews) Creek Reservoir near Lakeview, Oreg.....	-	1913-21; (1921-25)q/;
		1925-
North Drew (Drews) Canal near Lakeview, Oreg.....	-	1914-21; (1921-25)q/;
		1925-
Drew (Drews) Creek near Lakeview, Oreg.....	211	1909-21; (1921-25)q/;
		1925-
Cottonwood Creek Reservoir near Lakeview, Oreg.....	a/30	(1924-25)q/; 1925-31;
		(1932-41)q/; (1944;
		1947-48)r/; 1949-
Cottonwood Creek near Lakeview, Oreg.....	a/30	1908-19; (1924-25)q/;
		1925-
Thomas Creek near Lakeview, Oreg.....	-	1912-17; 1919;
		(1927-31)q/.
Sacramento River basin		
Sacramento River at Castella, Calif.....	-	1910-22.
Sacramento River at Delta, Calif.....	427	1944-
Sacramento River at Antler, Calif.....	461	1910-11; 1919-41.
North Fork Pit River:		
Parker Creek near Alturas, Calif.....	-	1930-31.
North Fork Pit River near Alturas, Calif.....	-	1929-32.
North Fork Pit River at Alturas, Calif.....	s/209	1928-31.
South Fork Pit River at Jess Valley (near Ivy), Calif...	-	1904-5; 1928-31.
West Valley Creek near Likely, Calif.....	-	1904-5; 1928-31.
South Fork Pit River near Likely, Calif.....	248	1928-
Crooks Canyon Creek near Likely, Calif.....	-	1929-31.
Fitzhugh Creek near Alturas, Calif.....	-	1928-31.
South Fork Pit River near Alturas, Calif.....	-	1929-31.
Pine Creek near Alturas, Calif.....	a/31	1918-31.
Pit River at Alturas, Calif.....	-	1928-31.
Pit River near Canby, Calif.....	a/s/1,430	1904-5; 1929-
Pit River near Lookout, Calif.....	-	1929-31.
Ash Creek at Ash Valley, Calif.....	-	1928-31.
Rush Creek near Adin, Calif.....	-	1930.
Ash Creek at Adin, Calif.....	249	1904-5; 1928-32.
Willow Creek near Adin, Calif.....	-	1929-31.
Widow Valley Creek near Lookout, Calif.....	-	1929-31.
Pit River near Bieber, Calif.....	a/s/2,970	1904-8; 1913-14;
		1921-26; 1928-31;
		1951-
Horse Creek at Little Valley near Pittville, Calif.....	-	1928-31.
McArthur drainage canal at McArthur, Calif.....	-	1923-32.
Fall River:		
Bear Creek near Dana, Calif.....	-	1921-26.
Fall River near Glenburn, Calif.....	-	1922.
Fall River at Fall River Mills, Calif.....	-	1912-13; 1921-22.
Pit River at Fall River Mills, Calif.....	a/s/4,150	1921-51.
Hat Creek near Hat Creek, Calif.....	t/122	1926-
Hat Creek at Brown's Ranch, near Hat Creek, Calif.....	t/173	1926.
Hat Creek at Hawkins Ranch, near Hat Creek, Calif.....	t/184	1911-13.
Hat Creek at Wilcox Ranch, near Cassel, Calif.....	t/202	1921-22.
Hat Creek at Hat Creek, Calif.....	t/222	1910-17.

† Monthly figure of discharge or contents only.

a/ Approximately.

q/ In reports of State engineer of Oregon.

r/ In files of State engineer of Oregon.

s/ Excluding Goose Lake Basin.

t/ Hydrologic drainage boundary uncertain owing to ground-water exchange.

Gaging station	Drainage area (sq mi)	Period of record
Sacramento River basin--Continued		
Pit River--Continued		
Hat Creek--Continued		
Lost Creek near Bald Mountain, Calif.....	-	1929-30.
Rising River near Cassel, Calif.....	-	1911-14; 1921-22.
Hat Creek above No. 2 powerplant, Calif.....	t/627	1931-32.
Hat Creek at Carbon, Calif.....	t/634	1921-22.
Burney Creek above Burney, Calif.....	58.4	1921-22.
Burney Creek near Burney, Calif.....	87.2	1911-13; 1921-22.
Burney Creek at Burney Falls, near Burney, Calif.....	183	1921-22.
Pit River near Pecks Bridge, Calif.....	a/s/4,800	1922-24.
Pit River at Lindsay Flat, Calif.....	a/s/4,860	1922-27.
Pit River below Pit No. 4 Dam, Calif.....	a/s/4,860	1927-
Pit River at Big Bend (Henderson), Calif.....	a/s/4,920	1910-
Kosk Creek near Henderson, Calif.....	55.1	1910-16.
Pit River above Hatchet Creek, Calif.....	a/s/5,040	1925-35.
Montgomery Creek at Montgomery Creek, Calif.....	21.7	1911-13.
Pit River near Montgomery Creek, Calif.....	a/s/5,170	1944-
Squaw Creek above Shasta Lake (Reservoir), Calif.....	65.3	1944-
Squaw Creek at (near) Ydalpom, Calif.....	100	1911-13.
Pit River near Ydalpom, Calif.....	a/s/5,350	1910-43.
McCloud River:		
Elk Creek near McCloud, Calif.....	11.5	1927-32.
McCloud River near McCloud, Calif.....	382	1931-
McCloud River above Shasta Lake (Reservoir), Calif.....	606	1945-
McCloud River near Gregory, Calif.....	-	1902-8.
McCloud River at Baird, Calif.....	665	1910-43.
Sacramento River at Kennett, Calif.....	a/s/6,800	1925-42.
Shasta Lake (Reservoir) near Redding, Calif.....	s/6,865	1942-
Sacramento River at Keswick, Calif.....	a/s/6,710	1938-
Clear Creek at French Gulch, Calif.....	115	1950-
Clear Creek near Shasta, Calif.....	172	1911-13.
Clear Creek near Igo, Calif.....	228	1940-
Cow Creek at Millville, Calif.....	166	1911-14.
Clover Creek at Millville, Calif.....	53.4	1911-14.
Little Cow Creek at Palo Cedro, Calif.....	145	1911-14.
Cow Creek near Millville, Calif.....	427	1949-
Cottonwood Creek:		
North Fork Cottonwood Creek near Ono, Calif.....	-	1919.
Moon Creek near Ono, Calif.....	-	1919.
North Fork Cottonwood Creek at Ono, Calif.....	52.2	1907-13.
Cottonwood Creek near Cottonwood, Calif.....	945	1940-
Battle Creek near Cottonwood, Calif.....	362	1940-
Sacramento River at Jellys Ferry, Calif.....	a/s/9,090	1895-1902.
Paynes Creek near Red Bluff, Calif.....	92.5	1949-
Sacramento River near Red Bluff, Calif.....	a/s/9,300	1902-
Sacramento River at Red Bluff, Calif.....	-	1894-96*.
Antelope Creek near Red Bluff, Calif.....	124	1940-
Mill Creek near Mineral, Calif.....	21.5	1928-32.
Mill Creek near Los Molinos, Calif.....	134	1909-13†; 1928-
Elder Creek near Paskenta, Calif.....	95.8	1948-
Elder Creek near Henleyville, Calif.....	-	1930-41.
Elder Creek at Gerber, Calif.....	142	1949-
Thomas (Thomas) Creek at Paskenta, Calif.....	188	1920-
Deer Creek at Deer Creek Meadows, Calif.....	-	1928-32.
Deer Creek at Polk Springs, Calif.....	-	1928-31.
Deer Creek near Vina, Calif.....	200	1911-15; 1920-37; 1939-
Big Chico (Chico) Creek near Chico, Calif.....	68.3	1930-
Stony Creek near Stonyford, Calif.....	a/97	1913-14; 1918-34.
Little Stony Creek near Lodoga, Calif.....	102	1907-34.
Stony Creek above Stony Gorge Reservoir, Calif.....	266	1933-41.
Stony Creek near Elk Creek, Calif.....	301	1919-34.
Grindstone Creek near Elk Creek, Calif.....	166	1935-37; 1939-40.
Stony Creek near Fruto, Calif.....	-	1901-12.
Stony Creek near Orland, Calif.....	636	1920-34.
Stony Creek at Black Butte dam site, near Orland, Calif..	-	1955-
Stony Creek near Hamilton City, Calif.....	764	1941-
Sacramento River at Butte City, Calif.....	-	1921-39††; 1940-
Sacramento River at Colusa, Calif.....	-	1921-39††; 1940-
Butte Creek near Chico, Calif.....	148	1930-

* Gage heights or gage heights and discharge measurements only.

† Fragmentary record.

†† Low water records only.

a/ Approximately.

s/ Excluding Goose Lake Basin.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Sacramento River basin--Continued		
Sacramento River below Wilkins Slough, Calif.....	-	1931-39**; 1940-
Sacramento River at Knights Landing, Calif.....	-	1921-39**; 1940-
Middle Fork Feather River:		
Big Grizzly (Grizzly) Creek near Portola, Calif.....	44.6	1925-32; 1950-53; 1954-
Big Grizzly (Grizzly) Creek near Beckworth (Beckwith), Calif.....	49.6	1905-6.
Middle Fork Feather River near Clio, Calif.....	599	1925-
Middle Fork Feather River at Sloat (near Cromberg), Calif.	793	1910-28.
Middle Fork Feather River below Sloat, Calif.....	835	1940-
Middle Fork Feather River near Nelson Point, Calif.....	898	1923-32.
Middle Fork Feather River near Merrimac, Calif.....	1,078	1951-
South Fork Feather River near La Porte, Calif.....	-	1927-33.
Lost Creek:		
Oroville-Wyandotte Canal (Forbestown Ditch) near Clipper Mills, Calif.....	-	1927-41.
Lost Creek near Clipper Mills, Calif.....	30.1	1927-41; 1948-
Palermo (Land & Water Co.'s) Canal at Enterprise, Calif.....	-	1911-
South Fork Feather River at Enterprise, Calif.....	134	1911-
Feather River (Middle Fork) at Bidwell Bar (near Oroville), Calif.....	1,353	1911-
North Fork Feather River above Prattville, Calif.....	-	1905-7.
Hamilton Branch Feather River near Prattville, Calif..	-	1905-7.
Lake Almanor near Prattville, Calif.....	506	1913-39 n/; 1930-
North Fork Feather River near (below) Prattville, Calif.	507	1905-
Butt Creek above Almanor - Butt Creek tunnel (Tunnel No.1), near Prattville, Calif.....	67.0	1936-37; 1938-
Butt Creek below Almanor - Butt Creek tunnel (Tunnel No.1), near Prattville, Calif.....	67.3	1938-
Butt Creek at Butte Valley, Calif.....	-	1905-21.
Indian Creek (head of East Branch of North Fork Feather River) near Crescent Mills, Calif.....	746	1906-9; 1911-18; 1930-
Spanish Creek above Blackhawk Creek, near Keddie, Calif.....	184	1933-
Spanish Creek at Keddie, Calif.....	196	1911-33.
East Branch of North Fork Feather River near Rich Bar, Calif.....	1,035	1950-
Bucks Creek:		
Bucks Lake (Bucks Creek Reservoir) near Bucks Lodge (Ranch), Calif.....	a/28	1928-
Grizzly Creek near Storrie, Calif.....	a/4.6	1929-32; 1933-44.
North Fork Feather River at Big Bar, Calif.....	1,945	1911-30; 1931-37; 1939-
North Fork Feather River at Big Bend, Calif.....	-	1905-10.
West Branch Feather River:		
Concow Creek:		
Spring Valley ditch near Yankee Hill.....	-	1927-52.
Concow Creek near Yankee Hill, Calif.....	14.7	1927-52.
West Branch Feather River near Yankee Hill, Calif.....	145	1930-
Feather River near (at) Oroville, Calif.....	3,611	1902-
Honcut Creek:		
South Honcut Creek near Bangor, Calif.....	30.5	1950-
Middle (Middle Fork) Yuba River:		
Milton-Bowman tunnel at outlet, Calif.....	-	1928-30; 1931-
Middle (Middle Fork) Yuba River at Milton, Calif.....	39.5	1926-34; 1935-
Middle (Middle Fork) Yuba River above Oregon Creek, Calif.....	162	1941-
Oregon Creek near North San Juan, Calif.....	34.4	1910-
Middle (Middle Fork) Yuba River near North San Juan, Calif.....	198	1900; 1910-41.
North (Middle Fork) Yuba River near Sierra City, Calif.....	91.8	1911-13; 1923-44.
Downie River (North Fork of North Fork Yuba River) at Downieville, Calif.....	71.6	1910-26.
North (North Fork) Yuba River at Goodyears Bar, Calif.	216	1910-31.
Rock Creek at Goodyears Bar, Calif.....	8.98	1910-33.
Goodyears Creek at Goodyears Bar, Calif.....	12.9	1910-33.
North (North Fork) Yuba River below Goodyears Bar, Calif.....	245	1930-37; 1938-
North (North Fork) Yuba River below Bullards Bar Dam (at Colgate diversion dam) (near North San Juan), Calif.....	481	1900; 1940-
South (South Fork) Yuba River near Cisco, Calif.....	51.5	1942-
Canyon Creek above Jackson Creek, Calif.....	18.6	1926-30.

** Low water records only.

a/ Approximately.

n/ Summary records only, in WSP 881.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Sacramento River basin--Continued		
Feather River--Continued		
Middle Yuba River--Continued		
South Yuba River--Continued		
Canyon Creek--Continued		
Jackson Creek at mouth, Calif.....	5.88	1926-30.
Bowman Lake (Canyon Creek) near Graniteville, Calif.	29.4	1926-
Bowman-Spaulding Canal at intake, Calif.....	-	1927-
Canyon Creek below Bowman Lake, Calif.....	30.4	1927-
South (South Fork) Yuba River near Washington, Calif..	198	1942-53.
South (South Fork) Yuba River at Jones Bar, Calif.....	310	1940-48.
Yuba River at Englebright (Narrows) Dam, Calif.....	1,104	1941-
Deer Creek near Smartville, Calif.....	84.6	1935-
Yuba River at Smartville, Calif.	1,195	1903-41.
Yuba River at Parks Bar Bridge, near Smartville, Calif..	1,204	1900.
Dry Creek near Brownsville, Calif.....	20.4	1948-
Dry Creek at Virginia Ranch, Calif.....	71.3	1948-
Yuba River near Marysville, Calif.....	1,335	1954-
Yuba River at Marysville, Calif.....	1,340	1940-43**; 1944; 1945**; 1946-54.
Bear River:		
Bear River Canal near Colfax, Calif.....	-	1912-53.
Bear River near Colfax, Calif.....	105	1911-17; 1949-53.
Bear River near Auburn, Calif.....	140	(1922; 1925-28; 1929-33)e/; 1940-
Bear River at Van Trent, Calif.....	-	1904-28.
Bear River near Wheatland, Calif.....	295	1928-
Dry Creek near Wheatland, Calif.....	99.5	1946-
Feather River at Nicolaus, Calif.....	-	1921-
Sacramento River at Verona, Calif.....	-	1926-
Sacramento weir near Sacramento, Calif.....	-	(1926-)e/; 1950-
North Fork American River near Colfax, Calif.....	308	1911-41.
North Fork American River at North Fork Dam, Calif.....	343	1941-
Middle Fork American River at French Meadows, Calif.....	46.7	1951-
Rubicon River at Rubicon Springs, Calif.....	-	1910-14.
Little Rubicon River near Rubicon Springs, Calif....	-	1910-11.
(Little) South Fork Rubicon River at sawmill, near Quintette, Calif.....	-	1910-14.
Gerle Creek near Rubicon Springs, Calif.....	-	1910-14.
(Little) South Fork Rubicon River below Gerle Creek, near Quintette, Calif.....	-	1910-14.
(Little) South Fork Rubicon River at mouth, near Quintette, Calif.....	-	1909-11.
Rubicon River near Georgetown (Quintette), Calif.....	198	1909-14; 1943-
Pilot Creek:		
Georgetown Divide (Georgetown)ditch (Little South Fork ditch at sawmill, near Quintette)above Pilot Creek, near Georgetown, Calif.....	-	1910-13***; 1947-
Georgetown Divide (Georgetown) (Pilot Creek) ditch near Georgetown (Quintette), Calif....	-	1910-14; 1947-
Pilot Creek near Georgetown, Calif.....	15.1	1946-
Pilot Creek near Quintette, Calif.....	18.7	1910-14.
Middle Fork American River near Auburn (East Auburn), Calif.....	619	1911-
North Fork American River at Rattlesnake Bridge, Calif....	999	1930-37; 1938-55.
South Fork American River:		
Echo Lake conduit (flume) near Phillips (Vade), Calif.	-	1923-
Medley Lakes Outlet near Phillips (Vade), Calif.....	a/4.2	1922-
South Fork American River at Kyburz, Calif.....	-	1906-7; 1923-24.
Silver Lake Outlet (head of Silver Fork of South Fork American River) near Kirkwood, Calif.....	14.9	1922-
Seepage from Silver Lake near Kirkwood, Calif.....	-	1929-45.
Twin Lakes Outlet near Kirkwood, Calif.....	12.4	1922-
Twin Lakes spillway near Kirkwood, Calif.....	-	1925-
Silver Fork of South Fork American River near Kyburz, Calif.....	108	1924-44.
South Fork American River below Silver Fork, at Kyburz, Calif.....	-	1906.
El Dorado Canal near Kyburz, Calif.....	-	1922-
South Fork American River near Kyburz, Calif.....	196	1907; 1922-

** Low water records only.

*** Irrigation season only.

a/ Approximately.

e/ In reports of California Division of Water Resources.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Sacramento River basin--Continued		
North Fork American River--Continued		
South Fork American River--Continued		
Alder Creek near Whitehall, Calif.....	22.8	1922-
Plum Creek near Riverton, Calif.....	7.32	1922-39.
Silver Creek at Union Valley, Calif.....	82.7	1924-
South Fork Silver Creek near (at) Icehouse, Calif...	28.4	1922; 1924-
Silver Creek near Placerville, Calif.....	176	1921-
South Fork American River below Silver Creek, Calif.....	-	1923.
American River (Western States Gas & Electric Co.'s flume) (South Fork American River) flume near Camino, Calif.....	-	1922-
South Fork American River near Camino, Calif.....	497	1922-
Slab Creek:		
Finnon Reservoir outlet near Placerville, Calif.....	-	1922-37.
South Fork American River near Placerville, Calif.....	-	1911-20.
South Fork American River at Coloma, Calif.....	635	1929-41.
South Fork American River near Lotus, Calif.....	678	1951-
Weber (Webber) Creek near Salmon Falls, Calif.....	100	1943-
American River at Fair Oaks, Calif.	1,921	1904-
American River at Sacramento, Calif.....	-	1921; (1926-43)e/;
	-	1929-32; 1934-
Sacramento River at Sacramento, Calif.....	-	1904-5; 1921;
	-	(1924-)e/; 1949-
Yolo bypass:		
Knights Landing Ridge Cut at Knights Landing, Calif.....	-	(1933-40)e/; 1940-43;
	-	(1941-)e/
Clear Lake (head of Cache Creek):		
Adobe Creek near Kelseyville, Calif.....	6.39	1954-
Highland Creek near Kelseyville, Calif.....	12.4	1954-
Kelsey Creek near Kelseyville, Calif.....	37.4	1946-
Clear Lake at Lakeport, Calif.....	420	1874-1900*; 1913- *
Cache Creek at Lower Lake, Calif.....	492	1901-15.
Cache Creek near Lower Lake, Calif.....	528	1944-
North Fork Cache Creek near Lower Lake, Calif.....	198	1930-
Cache Creek near Capay, Calif.....	1,052	1942-
Cache Creek at Yolo, Calif.....	1,137	1903-
Yolo bypass near Woodland, Calif.....	-	(1930-40)e/; 1940-
Putah Creek near Guenoc, Calif.....	112	1904-6; 1930-
Putah Creek near Winters, Calif.....	577	1930-
Putah Creek at Winters, Calif.....	634	1905-31.
Putah Creek near Davis, Calif.....	636	1948-
Sacramento River at Collinsville, Calif.....	-	1878-85†.
Napa River basin		
Napa River near St. Helena, Calif.....	81.3	1929-32; 1939-
Conn Creek near St. Helena, Calif.....	52.3	1929-
Dry Creek near Napa, Calif.....	17.4	1951-
Dry Creek near Yountville, Calif.....	18.8	1940-41.
Napa River near Napa, Calif.....	219	1929-32.
Sonoma Creek basin		
Sonoma Creek at Boyes Hot Springs, Calif.....	62.7	1955-
Petaluma Creek basin		
Petaluma Creek near Petaluma, Calif.....	29.6	1948-
Novato Creek basin:		
Novato Creek near Novato, Calif.....	17.2	1946-
Corte Madera Creek basin		
Corte Madera Creek at Ross, Calif.....	18.3	1951-
Lagunitas Creek basin		
Lagunitas Creek:		
Arroyo Nicasio near Point Reyes Station, Calif.....	36.2	1953-
Russian River basin		
Russian River near Ukiah, Calif.....	99.6	1911-13; 1952-
East Fork Russian River near Calpella, Calif.....	93.9	1941-
East Fork Russian River near Ukiah, Calif.....	104	1911-13; 1951-
Russian River near Hopland, Calif.....	362	1939-
Russian River near Cloverdale, Calif.....	502	1951-
Russian River at Geyserville, Calif.....	656	1910-13.
Russian River near Healdsburg, Calif.....	793	1939-
Dry Creek near Cloverdale, Calif.....	87.8	1941-
Dry Creek near Healdsburg, Calif.....	131	1939-42.
Mark West Creek near Windsor, Calif.....	42.8	1940-41.

* Gage heights or gage heights and discharge measurements only.

† Monthly figure of discharge or contents only.

e/ In reports of California Division of Water Resources.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Russian River basin--Continued		
Mark West Creek--Continued		
Laguna de Santa Rosa:		
Santa Rosa Creek at Santa Rosa, Calif.....	56.4	1939-41.
Laguna de Santa Rosa near Graton, Calif.....	171	1940-51*.
Russian River near (at) Guerneville, Calif.....	1,349	1939-
Lalala River basin		
South Fork Gualala River near Annapolis, Calif.....	161	1950-
Navarro River basin		
Navarro River near Navarro, Calif.....	304	1950-
Noyo River basin		
Noyo River near Fort Bragg, Calif.....	105	1951-
Mattole River basin		
Mattole River near Petrolia, Calif.....	240	1911-13; 1950-
North Fork Mattole River at Petrolia, Calif.....	37.6	1951-
Eel River basin		
Eel River:		
Lake Pillsbury near Potter Valley (at Hullville), Calif...	289	1922-
Eel (South Eel) River below Scott Dam, near Potter Valley (at Hullville), Calif.....	290	1922-
Potter Valley powerhouse tailrace (Snow Mt. Water & Power Co.'s tailrace) near Potter Valley, Calif...	-	1922-
Eel (South Eel) River at Van Arsdale Dam, near Potter Valley, Calif.....	349	1909-
Eel (South Eel) River at Hearst, Calif.....	465	1910-13.
Eel River above Dos Rios, Calif.....	705	1950-
Middle Fork Eel River below Black Butte River, near Covelo, Calif.....	367	1951-
Middle Fork (Middle) Eel River near Covelo, Calif.....	405	1911-23.
Eel River below Dos Rios (at Two Rivers), Calif.....	1,483	1911-13; 1951-
North Fork Eel River near Mina, Calif.....	251	1953-
Eel River at Alderpoint, Calif.....	2,079	1955-
South Fork Eel River near Branscomb, Calif.....	43.9	1946-
South Fork Eel River at Garberville, Calif.....	468	1911-13; 1939-40.
South Fork Eel River near Miranda, Calif.....	537	1940-
Eel River at Scotia, Calif.....	3,113	1910-15; 1916-
Van Duzen River near Dinsmores, Calif.....	80.2	1953-
Van Duzen River at Bridgeville, Calif.....	200	1911-13; 1939-51.
Van Duzen River near Bridgeville, Calif.....	214	1950-
Yager Creek near Carlotta, Calif.....	127	1953-
Yager Creek at Carlotta, Calif.....	134	1911-14.
Jacoby Creek basin		
Jacoby Creek near Freshwater, Calif.....	6.07	1954-
Mad River basin		
Mad River near Forest Glen, Calif.....	139	1953-
Mad River near Arcata, Calif.....	485	1910-13; 1950-
Redwood Creek basin		
Redwood Creek near Blue Lake, Calif.....	67.5	1953-
Redwood Creek near Korbek, Calif.....	82.8	1911-13.
Redwood Creek at Orick, Calif.....	234	1911-13; 1953-
Lost River basin (closed basin adjacent to Klamath River basin)		
Lost River at Clear Lake, Calif.....	a/550	1904-9.
Miller Creek at Horsefly Valley, near Lorella, Oreg.....	a/220	1904-8.
Miller Creek near Lorella, Oreg.....	a/270	1909-20.
Lost River above Olene, Oreg.....	-	1915-17.
Lost River at Olene, Oreg.....	a/1,290	1904; 1907-12.
Olene wasteway at Olene, Oreg.....	-	1915-18.
Lost River diversion canal near Olene (Klamath Falls), Oreg.....	-	1912-
"G" Canal (Griffith lateral) near Olene, Oreg.....	-	1912-18.
Lost River at Wilson Bridge, near Olene, Oreg.....	-	1912-20.
Lost River near Merrill, Oreg.....	a/1,420	1904-9.
Lost River at (near) Merrill, Oreg.....	-	1916.
Tule Lake near Malin (Merrill), Oreg.....	-	1904-20*.
Lower Klamath Lake basin (closed basin adjacent to Klamath River basin)		
Lower Klamath Lake near Mount Dome (Brownell), Calif.....	-	1907-9; 1912-19.
Antelope Creek near Tennant, Calif.....	18.8	1952-
Antelope Creek near Macdoel, Calif.....	-	1921-22.
Butte Creek near Macdoel, Calif.....	178	1921-22; 1951-
Ady pumps to Klamath River at Ady, Oreg.....	-	1943- †

* Gage heights or gage heights and discharge measurements only.

† Monthly figure of discharge or contents only.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Klamath River basin		
Williamson River (head of Klamath River) near Silver Lake, Oreg.....	-	1917-21.
Miller Creek near Crescent, Oreg.....	-	1911-14.
Sand Creek near Fort Klamath, Oreg.....	-	1917-22.
Scott Creek near Fort Klamath, Oreg.....	-	1917-20.
Williamson River near Klamath Agency, Oreg.....	a/1,290	1908-10; 1954-
Williamson River above Spring Creek, near Klamath Agency (Chiloquin), Oreg.....	a/1,330	1912-13; 1917-25.
Williamson River at Chiloquin, Oreg.....	a/1,400	1911-17.
South Fork Sprague River:		
Bly Canal near Bly, Oreg.....	-	1925-26.
South Fork Sprague River near Bly, Oreg.....	-	1925-26.
North Fork Sprague River:		
Sprague River Irrigation Co's. canal near Bly, Oreg...	-	1918; 1925-26.
North Fork Sprague River near Bly, Oreg.....	-	1917-18; 1925-26.
Fivemile Creek near Bly, Oreg.....	-	1917-21.
Sprague River near Beatty (above Yainax), Oreg.....	513	1912-26; 1953-
Sycan River near Silver Lake, Oreg.....	-	1905; 1918-22.
Long Creek near Silver Lake, Oreg.....	-	1918-23; 1926-29.
Sycan River near Beatty (Yainax), Oreg.....	-	1911-25.
Whiskey Creek near Beatty, Oreg.....	-	1917-19.
Sprague River near (at) Yainax, Oreg.....	a/1,270	1904-5.
Sprague River at McCreedy ranch, near Chiloquin, Oreg....	a/1,470	1920-31.
Sprague River near Chiloquin, Oreg.....	a/1,580	1931-
Modoc Point Canal near Chiloquin, Oreg.....	-	1915-21; 1923-27.
Sprague River at Chiloquin, Oreg.....	a/1,600	1911-19; 1923; 1925.
Williamson River below Sprague River, near Chiloquin, Ore...	a/3,000	1917-
Upper Klamath Lake (continuation of Williamson River):		
Wood River:		
Annie (Anna) Creek at Crater Lake, Oreg.....	-	1913.
Annie (Anna) Creek near Fort Klamath, Oreg.....	-	1922-27.
Wood River at Fort Klamath, Oreg.....	-	1911-36.
Fourmile Creek:		
Fourmile Lake Reservoir (continuation of Fourmile Creek) near Odessa, Oreg.....	-	1923-25; 1926-30†; 1932†.
Cascade Canal near Fish Lake, Oreg.....	-	(1923)q/; 1924-
Fourmile Creek near Odessa, Oreg.....	-	1912-17; (1920)q/.
"A" Canal (Klamath main canal) at (near) Klamath Falls, Oreg.....	-	1911-12†; 1913-
Keno Canal at Klamath Falls, Oreg.....	-	1923-52.
Upper Klamath Lake near Klamath Falls, Oreg.....	-	1904-27*; (1924-27)q/; 1927-
Link River (continuation of Upper Klamath Lake) at Klamath Falls, Oreg.....	a/u/3,810	1904-
Klamath River below Klamath Falls, Oreg.....	-	1907-9*.
Diversion from Klamath River to Lost River near Olene, Oreg.....	-	1931-
Diversion from Klamath River at Ady, Oreg.....	-	1926-32**; 1932- †
Klamath River at Keno, Oreg.....	a/v/3,920	1904-13; 1930-
Spencer Creek near Keno, Oreg.....	-	1929-32.
Klamath River at Spencer Bridge, near Keno, Oreg.....	a/4,050	1913-31.
Shovel (Bear) Creek near MacDoel, Calif.....	19.5	1921-22.
Klamath River near Copco, Calif.....	a/4,300	1923-28.
Fall Creek at Copco, Calif.....	a/20	1928-
Klamath River below Fall Creek, near Copco, Calif.....	a/4,370	1928-
Jenny Creek:		
Beaver Creek near Lilyglen (Ashland), Oreg.....	w/30.3	1916-19; (1930-31)q/; (1942-43)r/; 1948-53.
Little Beaver Creek at Pinehurst, Oreg.....	-	(1943-45)r/; 1945-48.
Keene Creek:		
Hyatt Prairie Reservoir (continuation of Keene Creek) near Ashland, Oreg.....	a/10	1922- †
Keene Creek at Hyatt Prairie, near Ashland, Oreg.....	a/11	1917-22; 1948-
Keene Creek Canal near Ashland, Oreg.....	-	1923-49.
Keene Creek at Keene ranch, near Ashland, Oreg.....	-	1918-19.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

** Yearly figures of discharge only.

a/ Approximately.

q/ In reports of State engineer of Oregon.

r/ In files of State engineer of Oregon.

u/ Including Crater Lake basin.

v/ Not including Lost River or Lower Klamath Lake basins.

w/ At site used 1916-19, 1930-31, 1942-43, 29.9 sq mi.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Klamath River basin--Continued		
Jenny Creek--Continued		
Keene Creek near Lincoln, Oreg.....	-	(1940-41)q/; (1941-45)r/; 1945-48.
Jenny Creek near Copco, Calif.....	-	1922-28.
Shasta River near Montague, Calif.....	667	1911-13; 1916-33; (1933-)***e/
Shasta River near Yreka, Calif.....	796	1933-41; 1944-
East Fork Scott River near Callahan, Calif.....	57.6	1910-13.
East Fork Scott River at Callahan, Calif.....	115	1913-21*.
Scott River at Callahan, Calif.....	168	1911-21*.
Scott River near Fort Jones, Calif.....	662	1941-
Scott River near Scott Bar, Calif.....	813	1911-13.
Klamath River near Seiad Valley, Calif.....	a/6,980	1912-25; 1951-
Klamath River near Happy Camp, Calif.....	a/7,070	1911-12.
Indian Creek near Happy Camp, Calif.....	118	1911-21.
Reeve Davis flume near Happy Camp, Calif.....	-	1911-13*.
Salmon River at Somesbar, Calif.....	746	1911-15; 1927-
Klamath River at Somesbar, Calif.....	a/8,480	1927-
Trinity River:		
Coffee Creek at Coffee, Calif.....	-	1910-14.
Trinity River near Trinity Center, Calif.....	298	1910-13.
Swift Creek near Trinity Center, Calif.....	35.0	1910-14.
East Fork Trinity River near Trinity Center, Calif.....	109	1910-14.
Trinity River at Lewiston, Calif.....	724	1911-
Trinity River near Douglas City, Calif.....	1,017	1944-51.
North Fork Trinity River at Helena, Calif.....	152	1911-13.
Trinity River near Burnt Ranch, Calif.....	1,429	1931-40.
New River near Denny, Calif.....	179	1927-28.
Trinity River near China Flat, Calif.....	1,733	1911-13.
South Fork Trinity River:		
Hayfork Creek near Hyampom, Calif.....	379	1953-
South Fork Trinity River near Salyer, Calif.....	839	1950-
South Fork Trinity River near China Flat, Calif.....	909	1911-13.
Trinity River near (at) Hoopa, Calif.....	a/2,840	1911-14; 1916-18; 1931-
Klamath River near Klamath (Requa), Calif.....	a/12,100	1910-26; 1950-
Smith River basin		
Middle Fork Smith River near Crescent City, Calif.....	a/130	1911-16.
North Fork Smith River near Crescent City, Calif.....	a/160	1911-18.
South Fork Smith River near Crescent City, Calif.....	295	1911-13; 1954-
Smith River near Crescent City, Calif.....	613	1931-

* Fragmentary record.

*** Irrigation season only.

a/ Approximately.

e/ In reports of California Division of Water Resources.

q/ In reports of State engineer of Oregon.

r/ In files of State engineer of Oregon.

ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

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Cucamonga Creek, Calif.....	4	Finnon Reservoir outlet, Calif.....	18
Cuyama River, Calif.....	7	Fish Creek, Calif.....	5
Cuyamaca Water Co.'s flume, Calif.....	2	Fish Fork of East Fork San Gabriel River, Calif.....	4
		Fitzhugh Creek, Calif.....	14
Dalton Creek, Calif.....	5	Fivemile Creek, Oreg.....	20
Day Creek, Calif.....	4	Florence Lake, Calif.....	10
Deer Creek, Calif. (tributary to Dinkey Creek).....	9	Florence Lake tunnel, Calif.....	10
Deer Creek, Calif. (tributary to Sacramento River).....	15	Fontana pipeline, Calif.....	4
Deer Creek, Calif. (tributary to Tulare Lake basin).....	9	Forbestown ditch, Calif.....	16
Deer Creek, Calif. (tributary to Yuba River).....	17	Fourmile Creek, Oreg.....	20
Delta-Mendota Canal, Calif.....	13	Fourmile Lake Reservoir, Oreg.....	20
Devil Canyon Creek, Calif.....	4	Fox Creek, Calif.....	5
Dinkey Creek, Calif.....	9-10	Fresno Flume & Lumber Co.'s flumes, Calif...	10
Dog Creek, Calif.....	10	Fresno River, Calif.....	11
Dog Creek, Oreg.....	14	Fresno River, North Fork, Calif.....	11
Don Pedro Reservoir, Calif.....	12	Fresno Slough bypass, Calif.....	11
Downie River, Calif.....	16	Friant-Kern Canal, Calif.....	11
Drew Creek, Oreg.....	14	Friant-Madera Canal, Calif.....	11
Drew Creek Reservoir, Oreg.....	14	Fullerton Creek, Calif.....	5
Drews Creek, Oreg.....	14		
Drews Creek Reservoir, Oreg.....	14	Oalindo Creek, Calif.....	8
Dry Creek, Calif. (tributary to Alameda Creek).....	8	"Q" Canal, Oreg.....	19
Dry Creek, Calif. (tributary to Bear River).....	17	Georgetown ditch, Calif.....	17
Dry Creek, Calif. (tributary to Kings River).....	10	Georgetown Divide ditch, Calif.....	17
Dry Creek, Calif. (tributary to Mokelumne River).....	13	Gerle Creek, Calif.....	17
Dry Creek, Calif. (tributary to Napa River).....	18	Gobernador Creek, Calif.....	6
Dry Creek, Calif. (tributary to Russian River).....	18	Golden Rock ditch, Calif.....	12
Dry Creek, Calif. (tributary to Yuba River).....	17	Goodyears Creek, Calif.....	16
Dulzura Conduit, Calif.....	2	Goose Creek, Calif.....	13
		Grande, Arroyo, Calif.....	7
East Bay Municipal Utility District Aqueduct, Calif.....	13	Granite Creek, Calif.....	10
East Fork or Branch. See also name of main stream.		Granite Creek, East Fork, Calif.....	10
East San Pasqual ditch, Calif.....	2	Granite Creek, Middle Fork, Calif.....	10
East Twin Creek, Calif.....	3	Granite Creek, West Fork, Calif.....	10
Eaton Creek, Calif.....	5	Grayson Creek, Calif.....	8
Echo Lake conduit (flume), Calif.....	17	Griffith Lateral, Oreg.....	19
Eel River, Calif.....	19	Grindstone Creek, Calif.....	15
Eel River, Middle, Calif.....	19	Grizzly Creek, Calif. (tributary to Middle Fork Feather River).....	16
Eel River, Middle Fork, Calif.....	19	Grizzly Creek, Calif. (tributary to North Fork Feather River).....	16
Eel River, North Fork, Calif.....	19	Guadalupe Creek, Calif.....	8
Eel River, South, Calif.....	19	Guadalupe River, Calif.....	8
Eel River, South Fork, Calif.....	19	Gualala, River, South Fork, Calif.....	19
Elder Creek, Calif.....	15	Guejito Creek, Calif.....	2
El Dorado Canal, Calif.....	17		
Eleanor Creek, Calif.....	12	Hadselville Creek, Calif.....	14
Eleanor, Lake, Calif.....	12	Haines Creek, Calif.....	5
Elk Creek, Calif.....	15	Hamilton Branch Feather River, Calif.....	16
Elsinore Lake, Calif.....	4	Hat Creek, Calif.....	14-15
Erskine Creek, Calif.....	9	Hayfork Creek, Calif.....	21
Escondido Mutual Water Co.'s canal, Calif...	2	Helms Creek, Calif.....	9
Esperanza Creek, Calif.....	13	Hetch Hetchy Reservoir, Calif.....	12
Estrella Creek, Calif.....	7	Highland Creek, Calif. (tributary to Adobe Creek).....	18
		Highland Creek, Calif. (tributary to Middle Fork Stanislaus River).....	12
Fall Creek, Calif.....	20	Highlands or North Fork Canal, Calif.....	3
Fall River, Calif.....	14	Honcutt Creek, South, Calif.....	16
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		Hopper Creek, Calif.....	5
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Hunter Creek, Calif.....	12	Little Cow Creek, Calif.....	15
Huntington Lake, Calif.....	10	Little Dalton Creek, Calif.....	5
Huntington-Shaver conduit, Calif.....	10	Little Dry Creek, Calif.....	11
Hyatt Prairie Reservoir, Oreg.....	20	Little Johns Creek (South Channel), Calif.....	13
		Little Rubicon River, Calif.....	17
Illilouette Creek, Calif.....	11	Little San Geronio Creek, Calif.....	3
Indian Creek, Calif. (tributary to Clavey River).....	12	Little Santa Anita Creek, Calif.....	5
Indian Creek, Calif. (tributary to Klamath River).....	20	Little South Fork ditch, Calif.....	17
Indian Creek, Calif. (tributary to North Fork Feather River).....	16	Little South Fork Rubicon River, Calif.....	17
Iron Creek, Calif.....	10	Little Stony Creek, Calif.....	15
Iron Fork of East Fork San Gabriel River, Calif.....	4	Little Tujunga Creek, Calif.....	5
Irvine Ranch drainage canal.....	3	Llagas Creek, Calif.....	7
Isabella Reservoir, Calif.....	9	Lone Pine Creek, Calif.....	4
		Long Creek, Oreg.....	20
Jack Creek, Calif.....	7	Los Angeles River, Calif.....	5
Jackass Creek, Calif.....	10	Los Capitancillos Creek, Calif.....	8
Jackass Creek, West Fork, Calif.....	10	Los Gatos Creek, Calif. (tributary to Guadalupe River).....	8
Jackson Creek, Calif.....	17	Los Gatos Creek, Calif. (tributary to Tulare Lake basin).....	10
Jacoby Creek, Calif.....	19	Lost Creek, Calif. (tributary to Hat Creek).....	15
James bypass, Calif.....	11	Lost Creek, Calif. (tributary to South Fork Feather River).....	16
Jamul Creek, Calif.....	2	Los Trancos Canal, Calif.....	8
Jawbone Creek, Calif.....	12	Los Trancos Creek, Calif.....	8
Jenny Creek, Calif.....	21	Lost River, Calif.....	19
Jesus Maria Creek, Calif.....	13	Lost River diversion canal, Oreg.....	19
		Lost River, Oreg.....	19
Kaweah River, Calif.....	9	Lowell ditch, Calif.....	9
Kaweah River, East Fork, Calif.....	9	Lower Klamath Lake, Calif.....	19
Kaweah River, Marble Fork, Calif.....	9	Lower San Joaquin River, Calif.....	13
Kaweah River, Marble Fork, No. 3 conduit, Calif.....	9	Lytle Creek (and Fontana pipeline), Calif.....	4
Kaweah River, Middle Fork, Calif.....	9	Lytle Creek, Calif.....	4
Kaweah River, Middle Fork, No. 3 conduit, Calif.....	9	Lytle Creek (east channel), Calif.....	4
Kaweah River, North Fork, Calif.....	9	Lytle Creek (west channel), Calif.....	4
Kaweah River, South Fork, Calif.....	9		
Keene Creek Canal, Oreg.....	20	Madera Canal, Calif.....	11
Keene Creek, Oreg.....	20	Mad River, Calif.....	19
Kelsey Creek, Calif.....	18	Malibu Creek, Calif.....	5
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Kern River No. 3 Canal, Calif.....	9	Mark West Creek, Calif.....	18
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		Melones Reservoir, Calif.....	12
La Brea Creek, Calif.....	7	Merced River, Calif.....	11
Laguna, Arroyo de la, Calif.....	8	Merced River Slough, Calif.....	11
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Lagunita Canal, Calif.....	8	Middle Fork or Branch. See name of main stream.....	
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Lake Eleanor, Calif.....	12	Middle Yuba River, Calif.....	16
Lake McClure, Calif.....	11	Mill Creek, Calif. (tributary to Santa Ana River).....	3
Lake Pillsbury, Calif.....	19	Mill Creek, Calif. (tributary to Sacramento River).....	15
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La Zaca Creek, Calif.....	6	Mill Creek power canals Nos. 1, 2, and 3, Calif.....	3
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Miller Creek, Oreg. (tributary to Williamson River).....	20	Pitman Creek, Calif.....	10
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Milton-Bowman tunnel, Calif.....	16	Pit River, North Fork, Calif.....	14
Mission Creek, Calif.....	5	Pit River, South Fork, Calif.....	14
Mission tunnel, Calif.....	6	Plum Creek, Calif.....	18
Mochó, Arroyo, Calif.....	8	Plunge Creek, Calif.....	3
Modesto Canal, Calif.....	12	Positas, Arroyo Las, Calif.....	8
Modoc Point Canal, Oreg.....	20	Poso Creek, Calif.....	9
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Mokelumne River, Middle Fork, Calif.....	13	Rabbit Creek, Calif.....	13
Mokelumne River, North Fork, Calif.....	13	Rancheria Creek, Calif.....	9
Mokelumne River, South Fork, Calif.....	13	Redlands or South Fork Canal, Calif.....	3
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Mono Creek, Calif. (tributary to South Fork San Joaquin River).....	10	Reeve Davis flume, Calif.....	21
Monrovia pipeline, Calif.....	5	Relief Creek, Calif.....	12
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Moon Creek, Calif.....	15	Rincon Indian Reservation ditch, Calif.....	2
Murietta Creek, Calif.....	3	Rio Hondo, Calif.....	5
Murphy Creek, Calif.....	13	Rio Hondo Slough, Calif.....	5
Murray Creek, Calif.....	13	Rising River, Calif.....	15
Nacimientó River, Calif.....	7	Rock Creek, Calif.....	16
Napa River, Calif.....	18	Rogers Creek, Calif.....	5
Navarro River, Calif.....	19	Rose Creek, Calif.....	12
Nelder Creek, Calif.....	11	Rubicon River, Calif.....	17
New River, Calif.....	21	Rubicon River, Little South Fork, Calif....	17
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Nojoqui Creek, Calif.....	6	Rush Creek, Calif. (tributary to Ash Creek)...	14
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Palermo (Land & Water Co.) Canal, Calif....	16	San Benito River, Calif.....	7
Panoche Creek, Calif.....	11	Sand Creek, Calif.....	9
Pardec Reservoir, Calif.....	13	Sand Creek, Oreg.....	20
Park Creek, Calif.....	14	San Diego Creek, Calif.....	3
Parker Creek, Calif.....	14	San Diego flume, Calif.....	2
Pauma Creek, Calif.....	2	San Diego River, Calif.....	2
Paynes Creek, Calif.....	15	San Diego River, South Fork, Calif.....	2
Pescadero Creek, Calif.....	7	San Dieguito River, Calif.....	2
Petaluma Creek, Calif.....	18	San Dimas Creek, Calif.....	5
Peters Canyon Wash, Calif.....	3	San Domingo Creek, Calif.....	13
Philadelphia Canal, Calif.....	12	San Emigdio Creek, Calif.....	9
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Pilot Creek, Calif.....	17	San Gabriel River, Calif.....	4-5
Pilot Creek ditch, Calif.....	17	San Gabriel River, East Fork, Calif.....	4
Pine Creek, Calif. (tributary to South Fork Pit River).....	14	San Gabriel River, Fish Fork of East Fork, Calif.....	4
Pine Creek, Calif. (tributary to Walnut Creek).....	8	San Gabriel River, Iron Fork of East Fork, Calif.....	4
Pine Flat Reservoir, Calif.....	10	San Gabriel River, North Fork, Calif.....	4
Pine Valley Creek, Calif.....	2	San Gabriel River, West Fork, Calif.....	4
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San Pasqual ditch, East, Calif.....	2	Spanish Creek, Calif.....	16
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Santa Agueda Creek, Calif.....	6	Sprague River Irrigation Co.'s canal, Oreg..	20
Santa Ana River, Calif.....	3-4	Sprague River, North Fork, Oreg.....	20
Santa Ana Valley Irrigation Co.'s canal, and Anaheim Union Water Co.'s canal, Calif.....	4	Sprague River, South Fork, Oreg.....	20
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Santa Cruz Creek, Calif.....	6	Squaw Creek, Calif.....	15
Santa Margarita Creek, Calif.....	6	Stanislaus & San Joaquin Water Co.'s canal, Calif.....	12
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Santa Maria River, Calif.....	7	Stanislaus River, Middle Fork, Calif.....	12
Santa Paula Creek, Calif.....	6	Stanislaus River, North Fork, Calif.....	12
Santa Rosa Creek, Calif.....	19	Stanislaus River, South Fork, Calif.....	12
Santa Rosa, Laguna de, Calif.....	19	Steiner Creek, Calif.....	7
Santa Ynez River, Calif.....	6	Stevens Creek, Calif.....	6
Santa Ysabel Creek, Calif.....	2	Stevenson Creek, Calif.....	10
Santiago Creek, Calif.....	4	Stockton diverting canal, Calif.....	13
San Timoteo Creek, Calif.....	3	Stockton-Mokelumne Canal, Calif.....	13
San Vicente Creek, Calif.....	2	Stony Creek, Calif.....	15
Saratoga Creek, Calif.....	8	Strawberry Creek, Calif.....	3
Sawpit Creek, Calif.....	5	Sur River, Calif.....	7
Scott Creek, Calif.....	7	Susanna Creek, Calif.....	2
Scott Creek, Oreg.....	20	Sutter Creek, Calif.....	13
Scott River, Calif.....	21	Sweetwater River, Calif.....	2
Scott River, East Fork, Calif.....	21	Swift Creek, Calif.....	21
Seco, Arroyo, Calif (tributary to Los Angeles River).....	5	Sycamore Creek, Calif.....	10
Seco, Arroyo, Calif. (tributary to Salinas River).....	7	Sycan River, Oreg.....	20
Serrano & Carpenter Canal, Calif.....	4	Tassajara Creek, Calif.....	7
Seape Creek, Calif.....	6	Tassajero Creek, Calif.....	8
Shasta Lake, Calif.....	15	Tejon House Creek, Calif.....	9
Shasta Reservoir, Calif.....	15	Temecula Creek, Calif.....	3
Shasta River, Calif.....	21	Temescal Creek, Calif. (tributary to Santa Ana River).....	4
Shaver Lake, Calif.....	10	Temescal Creek, Calif. (tributary to Santa Ysabel Creek).....	2
Shovel Creek, Calif.....	20	Tenaya Creek, Calif.....	11
Sierra & San Francisco Power Co.'s canal, Calif.....	12	Tepusquet Creek, Calif.....	7
Silver Creek, Calif. (tributary to Panoche Creek).....	11	Thomas A. Edison, Lake, Calif.....	10
Silver Creek, Calif. (tributary to South Fork American River).....	18	Thomas Creek, Calif.....	15
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Silver Fork of South Fork American River, Calif.....	17	Thomas ditch, Calif.....	9
Silver Lake Outlet, Calif.....	17	Thomas Creek, Calif.....	15
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Sly Park Creek, Calif.....	14	Topanga Creek, Calif.....	5
Smith River, Calif.....	21	Toro Creek, Calif.....	7
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Smith River, North Fork, Calif.....	21	Tres Pinos Creek, Calif.....	7
Smith River, South Fork, Calif.....	21	Trinity River, Calif.....	21
Snow Mt. Water & Power Co.'s tailrace, Calif.	13	Trinity River, East Fork, Calif.....	21
Sonoma Creek, Calif.....	16	Trinity River, North Fork, Calif.....	21
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Tule River, South Fork, Calif.....	9	West San Pasqual ditch, Calif.....	14
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Tuolumne Canal, Calif.....	12	Whiskey Creek, Calif.....	20
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Tuolumne River, North Fork, Calif.....	12	White River, Calif.....	14
Tuolumne River, South Fork, Calif.....	12	Widow Valley Creek, Calif.....	20
Turlock Canal, Calif.....	12	Williamson River, Oreg.....	14
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Twin Lakes Outlet, Calif.....	17	Willow Creek, Calif. (tributary to San Joaquin River).....	10
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Utica Gold Mining Co.'s canal, Calif.....	12	Wood River, Oreg.....	12
Uvas Creek, Calif.....	7	Woods Creek, Calif.....	19
Valle, Arroyo del, Calif.....	8	Yager Creek, Calif.....	18
Van Duzen River, Calif.....	19	Yolo bypass, Calif.....	11
Ventura River, Calif.....	6	Yosemite Creek, Calif.....	16
Walker Basin Creek, Calif.....	9	Yuba River, Calif.....	16
Walnut Creek, Calif.....	8	Yuba River, Middle, Calif.....	16
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Warm Creek, Calif.....	4	Yuba River, North, Calif.....	16
Waterman Canyon Creek, Calif.....	3	Yuba River, North Fork, Calif.....	16
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AND UPPER COLUMBIA RIVER BASIN



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

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By E. G. Bailey

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

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PART 12—PACIFIC SLOPE BASINS IN WASHINGTON AND UPPER COLUMBIA RIVER BASIN

By E. G. Bailey

EXPLANATION

This index lists the streamflow and reservoir stations in the Pacific slope basins in Washington and upper Columbia River basin for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indentation and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indentation in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operation beyond September 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 20 to 24.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Pacific slope basins north of Columbia River</u>		
<u>Naselle River basin</u>		
Naselle River near Naselle, Wash.....	55.3	1929-
Salmon Creek near Naselle, Wash.....	16.4	1953-
<u>Nemah River basin</u>		
North Nemah River (head of Nemah River) near South Bend, Wash.....	18.0	1946-54.
<u>Willapa River basin</u>		
Willapa River at Lebam, Wash.....	41.4	1948-
Fork Creek near Lebam, Wash.....	20.4	1953-
Stringer Creek near Holcomb, Wash.....	3.02	1953.
Mill Creek near Willapa, Wash.....	23.7	1953.
Willapa River near Willapa, Wash.....	130	1947-54.
Ward Creek near Willapa, Wash.....	19.3	1953.
South Fork Willapa River near Raymond, Wash.....	27.3	1953-
<u>Smith Creek basin</u>		
Elkhorn Creek near Raymond, Wash.....	15.6	1953.
<u>North River basin</u>		
North River near Brooklyn, Wash.....	29.8	1953-
Fall River at Brooklyn, Wash.....	41.0	1953.
Little North River near Cosmopolis, Wash.....	18.6	1945-49; 1953.
North River near Raymond, Wash.....	219	1927-
<u>Johns River basin</u>		
Johns River near Markham, Wash.....	18.9	1942-43.
<u>Newskah Creek basin</u>		
Newskah Creek near Aberdeen, Wash.....	a/8.0	1945-49.
<u>Charles Creek basin</u>		
Charles Creek near Aberdeen, Wash.....	5.70	1945-49.
<u>Chehalis River basin</u>		
Chehalis River near Pe Ell, Wash.....	54.7	1944.
Rock Creek near Pe Ell, Wash.....	13.4	1944.
Chehalis River near Doty, Wash.....	113	1939-
Elk Creek near Doty, Wash.....	46.7	1942-50.
South Fork Chehalis River at Boistfort, Wash.....	49.2	1942-50.
Halfway Creek near Boistfort, Wash.....	13.4	1944.
Bunker Creek near Adna, Wash.....	20.1	1944.
Stearns Creek near Napavine, Wash.....	14.1	1945.
Stearns Creek near Adna, Wash.....	27.1	1944.
Chehalis River near Chehalis, Wash.....	434	1929-31.
Newaukum River (South Fork) near Onalaska, Wash.....	40.8	1942-48.
North Fork Newaukum River near Forest, Wash.....	32.5	1944.
Newaukum River near Chehalis, Wash.....	159	1929-31; 1942-
Chehalis River at Centralia, Wash.....	-	1910-11*.
Skookumchuck River near Centralia, Wash.....	60.8	1929-31; 1931-33†; 1939-
Hanaford Creek near Centralia, Wash.....	13.3	1944.
Lincoln Creek near Rochester, Wash.....	20.9	1942-50.
Chehalis River near Grand Mound, Wash.....	895	1928-
Scatter Creek near Grand Mound, Wash.....	21.0	1944.
<u>Black River:</u>		
Wadell Creek near Little Rock, Wash.....	15.9	1944.
Black River at Little Rock, Wash.....	a/b/60	1942-50.
Garrod Creek near Oakville, Wash.....	27.7	1944.
Rock Creek at Cedarville, Wash.....	24.8	1942-
Cedar Creek near Oakville, Wash.....	38.2	1944.
Chehalis River at Porter, Wash.....	a/1,300	1952-
Porter Creek at Porter, Wash.....	36.0	1942-48.
<u>Cloquallum River:</u>		
Wildcat Creek near Elma, Wash.....	19.8	1944.
Cloquallum River (Creek) at Elma, Wash.....	65.8	1942-
Chehalis River at South Elma, Wash.....	a/1,420	1942-44; 1946-52.
<u>East Fork Satsop River (head of Satsop River) near</u>		
Matlock, Wash.....	23.7	1945-47.
Bingham Creek near Matlock, Wash.....	a/30	1946-48.
Middle Fork (East Fork) Satsop River near Satsop, Wash.....	a/63	1942-43.
Satsop River near Satsop, Wash.....	a/290	1929-
Wynoochee River at Oxbow, near Aberdeen, Wash.....	a/68	1925-52.
Wynoochee River above Save Creek, near Aberdeen, Wash..	69.5	1951-
Wynoochee River near Montesano, Wash.....	a/c/110	1923-30.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

b/ Does not include area drained by artificial channel from Black Lake to Percival Creek.

c/ At measuring section $2\frac{1}{2}$ miles downstream.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pacific slope basins north of Columbia River--Continued		
Chehalis River basin--Continued		
Chehalis River--Continued		
Wynoochee River--Continued		
City of Aberdeen Wynoochee River intake near Montesano, Wash.....	-	1942.
Wynoochee River below Black Creek, near Montesano, Wash.....	178	1942-49.
Wishkah River near Wishkah, Wash.....	57.8	1942-43.
Hoquiam River basin		
Hoquiam River:		
West Fork Hoquiam River near Hoquiam, Wash.....	16.0	1942-43.
Humtulsips River basin		
Humtulsips River near Humtulsips, Wash.....	130	1933-35; 1942-
Quinault River basin		
Quinault River at Quinault Lake, Wash.....	264	1911-
Queets River basin		
Queets River:		
Clearwater River near Clearwater, Wash.....	140	1931-32; 1937-49.
Queets River near Clearwater, Wash.....	445	1930-49.
Hoh River basin		
Hoh River near Spruce, Wash.....	208	1926-
Quillayute River basin		
Soleduck River (head of Quillayute River) near Fairholm, Wash.....	83.8	1917-21; 1933-
Soleduck River at Snider ranger station, near Beaver, Wash.....	116	1921-28.
Soleduck (Solduck) River near (at) Quillayute, Wash.....	219	1897-1901.
Bogachiel River:		
Calawa (Calowa or Kalawa) River near (at) Forks, Wash.....	131	1897-1901.
Lyre River basin		
Lake Crescent at Piedmont, Wash.....	49.1	1919-27*.
Lyre River at Piedmont, Wash.....	49.5	1917-27.
Salt River basin		
Salt River near Port Angeles, Wash.....	8.31	1952.
Elwha River basin		
Lake Mills at Glines Canyon, near Port Angeles, Wash.....	245	1927-†
Elwha River at McDonald Bridge, near Port Angeles (at McDonald), Wash.....	269	1897-1901; 1918-
Elwha River near Port Angeles, Wash.....	315	1911; 1912*.
Elwha River below diversion, near Port Angeles, Wash.....	318	1951-
Ennis Creek basin		
Ennis Creek near Port Angeles, Wash.....	8.32	1952.
Siebert Creek basin		
Siebert Creek near Port Angeles, Wash.....	17.2	1952-
Dungeness River basin		
Dungeness River near Sequim, Wash.....	156	1923-30; 1937-
Dungeness River below Canyon Creek, near Sequim (Sequin), Wash.....	170	1897-98.
Dungeness River at Dungeness (Sequin), Wash.....	197	1898-1900; 1901†.
Jimmycomelately Creek basin		
Jimmycomelately Creek near Blyn, Wash.....	18.3	1952.
Salmon Creek basin		
Salmon Creek near Maynard, Wash.....	13.0	1952.
Snow Creek basin		
Snow Creek near Maynard, Wash.....	13.2	1952-
Andrews Creek near Maynard, Wash.....	10.2	1952.
Chimacum Creek basin		
Chimacum Creek near Chimacum, Wash.....	12.6	1952-
Little Quilcene River basin		
Little Quilcene River near Quilcene, Wash.....	19.6	1926-27; 1951-
Big Quilcene River basin		
Big Quilcene River near Quilcene, Wash.....	66.4	1926-27.
Dosewallips River basin		
Dosewallips River near Brinnon, Wash.....	93.5	1930-49.
Dosewallips River at Brinnon, Wash.....	116	1910-11; 1924-25; 1928-30.
Duckabush River basin		
Duckabush River near Brinnon (Duckabush), Wash.....	66.5	1910*; 1910-11; 1938-
Hamma Hamma River basin		
Hamma Hamma River near Eldon, Wash.....	51.3	1951-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Pacific slope basins north of Columbia River--Continued</u>		
Hamma Hamma River basin--Continued		
Hamma Hamma River near Hoodsport, Wash.....	a/84	1928-30.
<u>Eagle Creek basin</u>		
Eagle Creek near Lilliwaup, Wash.....	7.06	1951.
<u>Finch Creek basin</u>		
Finch Creek at Hoodsport, Wash.....	3.45	1951.
<u>Skokomish River basin</u>		
North Fork Skokomish River below Staircase Rapids, near Hoodsport, Wash.....	58.1	1924-
Lake Cushman (reservoir) near Hoodsport, Wash.....	93.7	1925-†
North Fork Skokomish River near Hoodsport, Wash.....	93.7	1910-11*; (1911-13†)d/; 1913-†
Deer Meadow Creek near Hoodsport, Wash.....	.28	1950-51; 1952-
Dow Creek near Hoodsport, Wash.....	1.67	1950-54.
<u>Gibbons Creek:</u>		
McTaggart (McTaggart) Creek near Hoodsport, Wash.....	1.30	1950-53.
North Fork Skokomish River near Potlatch, Wash.....	e/117	1944-
South Fork Skokomish River near Potlatch, Wash.....	65.6	1923-32; 1948-
South Fork Skokomish River near Union, Wash.....	79.6	1931-
Vance Creek near Potlatch, Wash.....	15.5	1955-
Skokomish River near Potlatch, Wash.....	230	1943-
Weaver Creek near Potlatch, Wash.....	-	1955-
Purdy Creek near Union, Wash.....	1.43	1954-
<u>Union River basin</u>		
Union River near Bremerton, Wash.....	3.16	1945-
Union River near Belfair, Wash.....	19.2	1947-
<u>Mission Creek basin</u>		
Mission Lake near Bremerton, Wash.....	1.91	1945-53*.
Mission Creek near Bremerton, Wash.....	1.91	1945-53.
Mission Creek near Belfair, Wash.....	4.37	1945-53.
<u>Tahuya River basin</u>		
<u>Tahuya River:</u>		
Gold Creek near Bremerton, Wash.....	1.54	1945-
Tahuya (Tahuyeh) River (Creek) near Bremerton, Wash.....	6.16	1945-
Panther Lake near Bremerton, Wash.....	.84	1945-53*.
Panther Creek near Bremerton, Wash.....	1.00	1945-53.
Tahuya (Tahuyeh) River (Creek) near Belfair, Wash.....	16.1	1945-
Tahuya River near Tahuya, Wash.....	43.1	1947.
<u>Dewatto Creek basin</u>		
Dewatto Creek near Dewatto, Wash.....	17.5	1947-54.
<u>Anderson Creek basin</u>		
Anderson Creek near Holley, Wash.....	a/6.3	1947.
<u>Stavis Creek basin</u>		
Stavis Creek near Seabeck, Wash.....	5.60	1947.
<u>Dogfish Creek basin</u>		
Dogfish Creek near Poulsbo, Wash.....	6.77	1947-
<u>Clear Creek basin</u>		
Clear Creek near Silverdale, Wash.....	a/8.5	1947.
<u>Chico Creek basin</u>		
Wildcat Lake near Bremerton, Wash.....	2.93	1947-50*.
Kitsap Lake near Bremerton, Wash.....	2.78	1947-50*.
Chico Creek near Bremerton, Wash.....	15.3	1947-50.
<u>Blackjack Creek basin</u>		
Blackjack Creek at Port Orchard, Wash.....	14.5	1947-50.
<u>Burley Creek basin</u>		
Burley Creek at Burley, Wash.....	10.0	1947-50.
<u>Minter Creek basin</u>		
<u>Minter Creek:</u>		
Huge Creek near Wauna, Wash.....	5.51	1947-
<u>Sherwood Creek basin</u>		
Shumocher Creek (head of Sherwood Creek) near Union, Wash.....	12.2	1951.
Mason Lake near Union, Wash.....	20.2	1951-*
<u>Deer Creek basin</u>		
Deer Creek near Shelton, Wash.....	13.6	1942-43; 1948-51.
<u>Cranberry Creek basin</u>		
Cranberry Creek near Shelton, Wash.....	15.2	1942-43; 1948-51.
<u>Johns Creek basin</u>		
Johns Creek near Shelton, Wash.....	17.7	1942-43; 1948-51.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

d/ In water-supply bulletins of State of Washington.

e/ Includes 99 sq mi above Cushman Dam No. 2 which is normally noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pacific slope basins north of Columbia River--Continued		
<u>Goldsborough Creek basin</u>		
Goldsborough Creek near Shelton, Wash.....	a/42	1951-
Goldsborough Creek at Shelton, Wash.....	a/55	1942-43.
<u>Mill Creek basin</u>		
Mill Creek at Shelton, Wash.....	19.5	1942-43.
<u>Skookum Creek basin</u>		
Skookum Creek at Kamilche, Wash.....	17.2	1951-
<u>Kennedy Creek basin</u>		
Kennedy Creek near New Kamilche, Wash.....	18.7	1951.
<u>Deschutes River basin</u>		
Deschutes River near Rainier, Wash.....	89.8	1949-
Spurgeon Creek near Olympia, Wash.....	11.0	1949-50.
Deschutes River near Olympia, Wash.....	160	1945-54.
<u>Woodward Creek basin</u>		
Woodward Creek near Olympia, Wash.....	3.80	1949.
<u>Woodland Creek basin</u>		
Woodland Creek near Olympia, Wash.....	24.3	1949-
<u>McAllister Creek basin:</u>		
McAllister Springs near Olympia, Wash.....	-	1951-
<u>Nisqually River basin</u>		
Nisqually River near Ashford, Wash.....	68.5	1910-11; 1912-14*.
Nisqually River near National, Wash.....	133	1942-
<u>Roundtop Creek:</u>		
Mineral Creek near Mineral, Wash.....	74.3	1942-
East Creek near Elbe, Wash.....	11.5	1918-22; 1949-50.
Nisqually River near Alder, Wash.....	252	1931-44.
Little Nisqually River near Alder, Wash.....	28.0	1920-43.
Alder Reservoir at Alder, Wash.....	286	1944-
La Grande Reservoir at La Grande, Wash.....	289	1945-†
Tacoma power conduit near La Grande, Wash.....	-	1919-28; 1928-31†.
Nisqually River (below Little Nisqually River) at (near) La Grande, Wash.....	292	1906-11; 1919-31; 1943-
Mashel River near La Grande, Wash.....	80.7	1940-
<u>Ohop Creek:</u>		
Lynch Creek near Eatonville, Wash.....	16.3	1949.
Ohop Creek near Eatonville, Wash.....	35.5	1927-32; 1941-
Nisqually River near McKenna, Wash.....	445	1941-
Tanwax Creek near McKenna, Wash.....	26.6	1944-50.
Nisqually River at McKenna, Wash.....	517	1947-
Muck Creek near Loveland, Wash.....	16.9	1949.
<u>Chambers Creek basin</u>		
Clover Creek (head of Chambers Creek) near Tillicum, Wash.....	70.3	1949-54.
Chambers Creek at Steilacoom Lake, near Steilacoom, Wash.	78.4	1938-40.
Chambers Creek below Leach Creek, near Steilacoom, Wash..	104	1937-40; 1943-
<u>Puyallup River basin</u>		
Puyallup River near Electron, Wash.....	92.8	1908-26; (1926-33†)d/;
		1944-49.
Puyallup River at Electron, Wash.....	131	1946.
Kapowsin Creek near Kapowsin, Wash.....	a/23	1927-32; 1941-
Puyallup River near Orting, Wash.....	172	1931-
Carbon River near (at) Fairfax, Wash.....	78.9	1910-12; 1929-
<u>South Prairie Creek:</u>		
Gale Creek at Wilkeson, Wash.....	25.0	1949.
South Prairie Creek at South Prairie, Wash.....	78.6	1949-
Voight Creek near Crocker, Wash.....	22.9	1949.
Fennel Creek near McMillin, Wash.....	12.5	1949.
Puyallup River at Alderton, Wash.....	438	1914-27; 1943-
White River (head of Stuck River) at Greenwater (near Enumclaw), Wash.....	216	1911-12*; 1929-
Greenwater River at Greenwater (near Enumclaw), Wash.	73.9	1911-12; 1929-
Mud Mountain Reservoir near Buckley, Wash.....	400	1943-44†; 1944-
White River near Buckley, Wash.....	401	1928-33; 1938-
White River flume near (at) Buckley, Wash.....	-	1913-24; 1924-38†.
Boise Creek near Enumclaw, Wash.....	9.58	1945-46.
White River at Buckley, Wash.....	427	1899-1901; 1902-3*;
		1910-11; 1913-26;
		1926-28†; 1933-38†.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

d/ In water-supply bulletins of State of Washington.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pacific slope basins north of Columbia River--Continued		
Puyallup River basin--Continued		
Stuck River near Sumner, Wash.....	f/470	1945-
Lake Tapps near Sumner, Wash.....	12.5	1911-†
Puyallup River at Puyallup, Wash.....	948	1914-
Clark Creek at Puyallup, Wash.....	1.66	1946-48.
Wapato Creek basin		
Wapato Creek near Tacoma, Wash.....	6.0	1949.
Hylebos Creek basin		
Hylebos Creek near Tacoma, Wash.....	11.3	1949-50.
Duwamish River basin		
Green River (head of Duwamish River):		
Sunday Creek:		
Snow Creek near Lester, Wash.....	11.9	1945-
Friday Creek near Lester, Wash.....	4.55	1945-
Green River near Lester, Wash.....	104	1945-
Smay Creek near Lester, Wash.....	8.71	1946-
Charley Creek near Eagle Gorge, Wash.....	11.0	1946-
Bear Creek near Eagle Gorge, Wash.....	4.25	1946-
Green River near Palmer, Wash.....	230	1931-
Green River at Kanaskat, Wash.....	240	1911.
Green River near Black Diamond, Wash.....	281	1939-48.
Newaukum Creek near Enumclaw, Wash.....	13.4	1945.
Newaukum Creek near Black Diamond, Wash.....	25.5	1944-50; 1952-
Burns Creek near Black Diamond, Wash.....	3.47	1945.
Big Soos Creek:		
Little Soos Creek near Kent, Wash.....	g/3.12	1945-46.
Big Soos Creek above Jenkins Creek, near Auburn, Wash..	g/16.3	1944-45.
Jenkins Creek near Auburn, Wash.....	14.6	1944-45.
Lake Sawyer near Black Diamond, Wash.....	9.77	1952-*
Covington Creek near Black Diamond, Wash.....	9.77	1953-
Covington Creek near Auburn, Wash.....	18.5	1944-45.
Big Soos Creek near Auburn, Wash.....	g/49.4	1944-
Green River near Auburn, Wash.....	g/382	1936-
Lake Washington basin		
North Fork Cedar River near Lester, Wash.....	8.81	1944-
South Fork Cedar River near Lester, Wash.....	6.00	1944-
Cedar River below Bear Creek, near Cedar Falls, Wash...	25.4	1945-
Cedar River near Cedar Falls, Wash.....	41.8	1945-
Rex River near Cedar Falls, Wash.....	13.0	1945-
Cedar River at Cedar Lake (at Vaughn Bridge), near North Bend, Wash.....	77.7	1898-99; 1902-3.
Cedar River at Cedar Falls, Wash.....	84.2	1914-
Taylor Creek near Selleck, Wash.....	17.6	1945.
Cedar River near Landsburg (Seattle, Maple Valley, and Ravensdale), Wash.....	h/125	1895-98; 1898-1901†; 1901-12; 1912-14†; 1914-
Rock Creek (near Landsberg) diversion near Landsburg, Wash.....	a/11	1932-45†; 1945-48.
Rock Creek near Maple Valley, Wash.....	14.0	1945-
Cedar River at Renton, Wash.....	1/197	1901-3; 1906-7; 1945-
May Creek near Renton, Wash.....	13.2	1945-50; 1955-
Mercer Creek near Bellevue, Wash.....	12.8	1945; 1955-
Juanita Creek near Kirkland, Wash.....	a/5.6	1945.
Issaquah Creek (head of Sammamish River) near Issaquah, Wash.....	26.0	1945-
East Fork Issaquah Creek at Issaquah, Wash.....	8.54	1945.
Sammamish Lake near Redmond, Wash.....	93.6	1939-*
Bear Creek near Redmond, Wash.....	12.8	1945-49.
Cottage Lake Creek near Redmond, Wash.....	11.0	1945; 1955-
Evans Creek near Redmond, Wash.....	11.1	1945.
Evans Creek above mouth, near Redmond, Wash.....	-	1955-
Bear Creek at Redmond, Wash.....	47.5	1945-50; 1955-
Sammamish River near Redmond, Wash.....	144	1939-
Bear Creek at Woodinville, Wash.....	15.4	1945.
North Creek near Bothell, Wash.....	24.1	1945-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

f/ Excludes that of Lake Tapps.

g/ Excludes 3.95 sq mi in vicinity of Youngs Lake.

h/ Excludes that of Rock Creek.

i/ Includes 4 sq mi in vicinity of Youngs Lake in the Big Soos Creek basin.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pacific slope basins north of Columbia River--Continued		
Lake Washington basin--Continued		
Sammamish River at Bothell, Wash.....	205	1939-
Swamp Creek near Bothell, Wash.....	21.8	1945.
McAleer Creek near Bothell, Wash.....	7.48	1945; 1946-49.
Thornton Creek near Seattle, Wash.....	13.5	1945-46.
Powder Creek basin		
Powder Creek near Mukilteo, Wash.....	2.06	1946.
Snohomish River basin		
Tye River (head of Snohomish River) near Skykomish, Wash.	79.8	1929-31; 1946.
Foss River:		
East Fork Foss River near Skykomish, Wash.....	21.6	1911*.
Foss River near Skykomish, Wash.....	54.8	1911.
South Fork Skykomish River (continuation of Tye River)		
near Skykomish, Wash.....	135	1929-31; 1946-50.
Beckler River near Skykomish, Wash.....	96.5	1929-33; 1946-49.
Miller River:		
West Fork Miller River (Creek) near Miller River (Berlin), Wash.....	12.9	1911*.
Miller River (Creek) at (near) Miller River (Berlin), Wash.....	44.7	1911-19; 1928-31; 1946.
South Fork Skykomish River near Miller River (Berlin), Wash.....	298	1910-11*.
South Fork Skykomish River near Index, Wash.....	355	1902-5; 1911-
North Fork Skykomish River:		
Troublesome Creek near Index, Wash.....	1/10.6	1929-41.
North Fork Skykomish River at Index, Wash.....	149	1910-22; 1929-38; 1946-48.
Skykomish River near Gold Bar, Wash.....		
Wallace River at Gold Bar, Wash.....	535	1928-
Olney Creek near Gold Bar, Wash.....	19.8	1928-33; 1946-
Olney Creek near Startup, Wash.....	8.03	1946-50.
May Creek near Gold Bar, Wash.....	9.95	1922-26; 1929-33.
Skykomish River at Sultan, Wash.....	4.07	1928-34; 1945-47.
Sultan River near Startup, Wash.....	618	1910-11.
Sultan River near Sultan, Wash.....	74.5	1934-
McCoy Creek near Sultan, Wash.....	a/88	1911-26; 1929-31.
Elwell Creek near Sultan, Wash.....	6.17	1946-50.
Woods Creek:	22.9	1946.
Roesiger Creek near Machias, Wash.....	3.94	1946-48.
Woods Creek below Roesiger Creek, near Monroe, Wash....	19.0	1946.
Carpenter Creek near Machias, Wash.....	8.89	1946.
Woods Creek near Monroe, Wash.....	55.0	1946-
Middle Fork Snoqualmie River near North Bend, Wash.....	169	1907-26; 1929-32; 1945.
North Fork Snoqualmie River near Snoqualmie Falls, Wash.....	a/65	1929-49.
North Fork Snoqualmie River at cable bridge, near North Bend, Wash.....	85.6	1913-15.
North Fork Snoqualmie River near North Bend, Wash....	105	1907-26; 1929-38.
South Fork Snoqualmie River near Garcia, Wash.....	45.3	1910-15.
South Fork Snoqualmie River at North Bend, Wash.....	a/83	1907-26; 1929-38; 1945-50.
Snoqualmie River near Snoqualmie (Snoqualmie Falls), Wash.....	375	1898-1900; 1902-4; 1905-6*; 1907-26†; 1926-27; 1927-32†.
Tokul Creek near Snoqualmie, Wash.....	a/34	1907-14; 1929-31; 1945.
Raging River near Fall City, Wash.....	30.6	1945-50.
Patterson Creek near Fall City, Wash.....	18.2	1947-50; 1955-
Patterson Creek eight-tenths of a mile above mouth, near Fall City, Wash.....	21.3	1945.
Griffin Creek near Carnation (Tolt), Wash.....	17.1	1945-
North Fork Tolt River near Carnation, Wash.....	39.2	1952-
South Fork Tolt River near Carnation, Wash.....	19.7	1952-
Tolt River near Carnation (Tolt), Wash.....	79.7	1928-32; 1937-
Snoqualmie River near Carnation (Tolt), Wash.....	608	1928-
Harris Creek near Carnation (Tolt), Wash.....	9.57	1945.
Ames Creek near Carnation (Tolt), Wash.....	3.17	1945.
Cherry Creek near Duvall, Wash.....	19.9	1945-48.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

a/ Approximately.

1/ At measuring section, 1½ miles above gage.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pacific slope basins north of Columbia River--Continued		
Snohomish River basin--Continued		
Evans Creek near Snohomish, Wash.....	2.75	1946.
French Creek near Monroe, Wash.....	7.09	1946.
Pilchuck River below Worthy Creek, near Granite Falls, Wash.....	41.7	1946.
Pilchuck River near Granite Falls, Wash.....	53.5	1911; 1943-
Little Pilchuck Creek near Lake Stevens, Wash.....	17.5	1946-
Lake Stevens at Lake Stevens, Wash.....	6.97	1946-50*.
Stevens Creek at Lake Stevens, Wash.....	15.3	1946-50.
Dubuque Creek near Lake Stevens, Wash.....	9.10	1946-50.
Panther Creek near Lake Stevens, Wash.....	5.93	1946.
Snohomish River at Snohomish, Wash.....	a/1,720	1941-k/
Wood Creek near Everett, Wash.....	1.96	1946-48.
Allen Creek at Marysville, Wash.....	7.93	1946.
Quilceda Creek near Marysville, Wash.....	13.9	1946-
Tulalip Creek basin		
Lake Goodwin (head of Tulalip Creek) near Silvana, Wash..	4.51	1953-*
Lake Shoecraft near Tulalip, Wash.....	5.57	1953-*
Stillaguamish River basin		
South Fork Stillaguamish River at (near) Silverton, Wash.	38.4	1929-32.
South Fork Stillaguamish River below Bender Creek, near Silverton, Wash.....	40.7	1950.
South Fork Stillaguamish River near Silverton, Wash.....	44.5	1910-17.
Boardman Creek near Silverton, Wash.....	8.52	1950.
Benson Creek near Granite Falls, Wash.....	a/2.7	1950.
South Fork Stillaguamish River near Granite Falls (Robe), Wash.....	119	1902-3*; 1928-
Canyon Creek near Granite Falls, Wash.....	56.8	1911-13*; 1928-32; 1950.
South Fork Stillaguamish River at Granite Falls, Wash....	182	1911; 1913-15.
South Fork Stillaguamish River above Jim Creek, near Arlington, Wash.....	199	1936-
Jim Creek near Oso, Wash.....	a/10	1947-49.
Cub Creek near Oso, Wash.....	a/8.7	1949-50.
Jim Creek near Arlington, Wash.....	48.9	1937-
South Fork Stillaguamish River near Arlington, Wash.....	254	1928-36.
North Fork Stillaguamish River:		
Squire Creek near Darrington, Wash.....	18.8	1950-
North Fork Stillaguamish River near Darrington, Wash...	82.2	1950-
Boulder River near Oso, Wash.....	27.0	1950.
Deer Creek at Oso, Wash.....	a/71	1917-30; 1950.
North Fork Stillaguamish River near Arlington, Wash....	269	1928-
Armstrong Creek near Arlington, Wash.....	7.33	1950-
Cavanaugh Lake (head of Lake Creek) near Oso, Wash...	6.92	1950-51*.
Pilchuck Creek near Bryant, Wash.....	49.7	1929-31; 1950-
Portage Creek near Arlington, Wash.....	a/8.8	1950.
Fish Creek near Arlington, Wash.....	a/7.6	1950-53.
Church Creek near Stanwood, Wash.....	a/6.4	1950.
Skagit River basin		
Skagit River near Hope, British Columbia.....	357	1915-22†m/; 1934-
Lightning Creek near Newhalem, Wash.....	129	1943-48.
Skagit River above Devils Creek, near Newhalem, Wash....	a/650	1940-45.
Beaver Creek near Newhalem, Wash.....	a/52	1940-48.
Skagit River (above Ruby Creek, near Marblemount) near Newhalem, Wash.....	765	1929-40.
Ruby Creek:		
Granite Creek near Newhalem, Wash.....	a/69	1946-48.
Ruby Creek below Panther Creek, near Newhalem, Wash....	199	1948-
Ruby Creek near Newhalem (Marblemount), Wash.....	a/210	1919-20; 1928-49.
Skagit River below Ruby Creek, near Newhalem (Marblemount), Wash.....	978	(1908-19†)d/; 1919-30; (1930-33†)d/.
Ross (Ruby) Reservoir near Newhalem, Wash.....	a/980	1940-46†; 1946-
Thunder Creek (above Colonial Creek, near Marblemount) near Newhalem, Wash.....	a/98	1930-
Thunder Creek near Marblemount, Wash.....	111	1919-30.
Diablo Reservoir near Newhalem, Wash.....	a/1,100	1929-†

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† Monthly figures of discharge or contents only.

a/ Approximately.

d/ In water-supply bulletins of State of Washington.

k/ High-water discharges only.

m/ In Dominion water-resources reports of Canada.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pacific slope basins north of Columbia River--Continued		
Skagit River basin--Continued		
Skagit River at Reflector Bar, near Newhalem (Marblemount), Wash.....	a/1,100	1913-22; (1908-13†; 1922-33†)d/.
Stetattle Creek near Newhalem (Marblemount), Wash.....	21.4	1913-15; 1933-
Skagit River at Newhalem (near Marblemount), Wash.....	a/1,160	1908-14; (1914-20†)d/; 1920-
Goodell Creek near Newhalem, Wash.....	38.7	1943-44.
Skagit River above Alma Creek, near Marblemount, Wash....	1,260	1950-
Alma Creek near Marblemount, Wash.....	8.48	1943.
Bacon Creek near Marblemount, Wash.....	50.9	1943-50.
Diobsud Creek near Marblemount, Wash.....	25.4	1943-44.
Skagit River at Marblemount, Wash.....	a/1,360	1943-44; 1946-51.
Cascade River:		
Marble Creek near Marblemount, Wash.....	15.9	1943-44.
Cascade River near Marblemount, Wash.....	a/140	1909-13.
Cascade River at Marblemount, Wash.....	171	1928-
Clark Creek at Marblemount, Wash.....	-	1944-46.
Jordan Creek at Marblemount, Wash.....	12.7	1943-47.
Rocky Creek near Marblemount, Wash.....	10.0	1943.
Illabot Creek near Rockport, Wash.....	41.3	1943-44.
North Fork Sauk River near Barlow Pass, Wash.....	a/76	1917-20.
South Fork Sauk River near Barlow Pass, Wash.....	32.7	1917-21; 1928-31.
Sauk River above Whitechuck River, near Darrington, Wash.....	152	1910*; 1917-22; 1928-
Whitechuck River near Darrington, Wash.....	a/75	1910*; 1919-21.
Sauk River above Clear Creek, near Darrington, Wash....	259	1910-13.
Sauk River at Darrington, Wash.....	293	1914-26; 1928-32.
Suiattle River below Lime Creek, near Darrington, Wash.....	213	1920-21.
Big Creek near Mansford, Wash.....	20.3	1943-46.
Suiattle River near Mansford, Wash.....	335	1938-49.
Sauk River (at and near Suiattle Crossing) near Sauk, Wash.....	714	1910*; 1911-12; 1928-
Jackman Creek near Concrete, Wash.....	23.9	1943-47.
Baker Lake near Concrete, Wash.....	120	1910-15*.
Sandy Creek near Concrete, Wash.....	10.8	1953-54.
Baker River below Anderson Creek, near Concrete, Wash..	211	1910-25; 1928-31; 1955-
Bear Creek near Concrete, Wash.....	10.0	1953-54.
North Fork Bear Creek near Concrete, Wash.....	n/20.2	1953-54.
Lake Shannon at Concrete, Wash.....	297	1925-†
Baker River at Concrete, Wash.....	297	1910-15; 1943-
Skagit River near Concrete, Wash.....	2,700	1924-
Finney Creek near Concrete, Wash.....	55.4	1943-48.
Grandy Creek near Concrete, Wash.....	18.9	1943-44.
O'Toole Creek near Hamilton, Wash.....	5.69	1943-44.
Alder Creek near Hamilton, Wash.....	10.7	1943-
Day Creek near Lyman, Wash.....	36.3	1943-
Jones Creek near Lyman, Wash.....	7.80	1943-44.
Gilligan Creek near Lyman, Wash.....	6.31	1943.
Cool (Coal) Creek near Sedro Woolley, Wash.....	a/1.8	1947-50.
Hansen Creek near Sedro Woolley, Wash.....	10.3	1943-45.
Skagit River near Sedro Woolley, Wash.....	a/3,000	1908-24.
Nookachamps Creek near Mount Vernon, Wash.....	22.2	1943-44.
East Fork Nookachamps Creek near Clear Lake, Wash....	20.5	1943-50.
Skagit River near Mount Vernon, Wash.....	a/3,060	1940-
Samish River basin		
Samish River:		
Friday Creek near Burlington, Wash.....	37.1	1943-48.
Samish River near Burlington, Wash.....	87.8	1943-
Whatcom Creek basin		
Whatcom Creek:		
Austin Creek near Bellingham, Wash.....	7.80	1948; 1954.
Whatcom Lake near Bellingham, Wash.....	-	1913-14*.
Whatcom Creek near Bellingham, Wash.....	55.4	1910-12; 1912-14*; 1939-46.
Whatcom Creek below hatchery, near Bellingham, Wash.....	55.5	1945-

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† Monthly figures of discharge or contents only.

a/ Approximately.

d/ In water-supply bulletins of State of Washington.

n/ Includes 8.27 sq mi from Sulphur Creek and 10.75 sq mi from Rocky Creek for greater part of year.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Pacific slope basins north of Columbia River--Continued		
<u>Squalicum Creek basin</u>		
Squalicum Creek at Bellingham, Wash.....	12.0	1948; 1954.
<u>Nooksack River basin</u>		
Nooksack River at Excelsior, Wash.....	95.7	1920-21.
Nooksack River above Cascade Creek, near Glacier, Wash...	105	1937-
Nooksack River (North Fork) near Glacier, Wash.....	195	1910*; 1911; 1933-38.
Kendall Creek at Kendall, Wash.....	24.0	1948-50.
Kendall Creek near mouth at Kendall, Wash.....	29.2	1954.
Coal Creek near Kendall, Wash.....	4.57	1948; 1954.
Middle Fork Nooksack River at ranger station, near Deming, Wash.....	-	1910*.
Middle Fork Nooksack River near Deming, Wash.....	70.5	1910-11*; 1920-21; 1934-35; 1954.
Canyon Creek at Kulshan, Wash.....	8.70	1948-54.
South Fork Nooksack River near Wickersham, Wash.....	103	1933-
Skookum Creek near Wickersham, Wash.....	23.1	1948-
South Fork Nooksack River at Saxon Bridge, Wash.....	129	1920-21; 1933-34.
Nooksack River at (near) Deming, Wash.....	580	1910-11*; 1935-
Anderson Creek at Goshen, Wash.....	12.9	1948; 1954.
Nooksack River near Lynden, Wash.....	636	1944-
Fishtrap Creek at Lynden, Wash.....	24.1	1948-
Bertrand Creek near Lynden, Wash.....	40.3	1948; 1954.
Ter mile Creek near Ferndale, Wash.....	22.7	1948; 1954.
<u>California Creek basin</u>		
California Creek near Custer, Wash.....	6.85	1954.
<u>Dakota Creek basin</u>		
Dakota Creek near Blaine, Wash.....	15.2	1948-54.
<u>Fraser River basin</u>		
Fraser River:		
Vedder River:		
Sumas River near Sumas, Wash.....	32.1	1948-50; 1954.
Johnson Creek at Sumas, Wash.....	23.0	1954.
Saar Creek near Sumas, Wash.....	9.76	1948; 1954.
Upper Columbia River basin		
<u>Columbia River:</u>		
<u>Kootenai River basin</u>		
Kootenay River at Newgate, British Columbia.....	a/7,660	1930-
Fortine Creek (head of Tobacco River) near Trego, Mont.	112	1946-53.
Grave Creek near Fortine, Mont.....	64.9	1923-24.
Kootenai River near Rexford, Mont.....	a/8,240	1929-40.
Fisher River near Jennings, Mont.....	780	1950-
<u>Libby Creek:</u>		
Granite Creek near Libby, Mont.....	23.6	1933-34; 1936-44.
Kootenai River at Libby, Mont.....	a/10,240	1910-
Lake Creek at Troy, Mont.....	210	1945-
Callahan Creek at Troy, Mont.....	85.8	1911-12†; 1913-14‡; 1915-16*.
Yaak River near Troy, Mont.....	766	1910-16‡.
Kootenai River at Leonia, Idaho.....	a/11,740	1928-
Boulder Creek near Leonia, Idaho.....	a/53	1928-
Kootenai River at Katka, Idaho.....	a/11,860	1928-33
Moyie River at Eastport, Idaho.....	a/570	(1915; 1916)m/; 1929-
Moyie River at Snyder, Idaho.....	656	1911-16; 1919-23.
Moyie River at Eileen, Idaho.....	755	1925-
Kootenai River at Crossport, Idaho.....	-	1904*.
Kootenai River at Boom Camp, near Bonners Ferry, Idaho..	a/12,950	(1925-27*)m/; 1927-*
Cow Creek near Bonners Ferry, Idaho.....	14.7	1928-34.
Kootenai River at (near) Bonners Ferry, Idaho.....	a/13,000	1904*; (1904-26*)p/; 1926-28*; 1928-
Kootenai River near Bonners Ferry, Idaho.....	a/13,000	1928-*
Kootenai River at Deep Creek, near Bonners Ferry, Idaho..	-	1928-30*.
Deep Creek at Moravia, Idaho.....	133	1928-
Snow Creek near Moravia, Idaho.....	19.5	1928-34.
Caribou Creek near Moravia, Idaho.....	14.0	1928-34.
Kootenai River at Myrtle Creek, near Bonners Ferry, Idaho	-	1929-30*‡.
Myrtle Creek near Bonners Ferry, Idaho.....	37	1928-34.
Ball Creek near Bonners Ferry, Idaho.....	27	1928-34.

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

m/ In Dominion water-resources reports of Canada.

p/ In reports of U. S. Weather Bureau.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Kootenai River basin--Continued		
Kootenai River at Klockmann Ranch, near Bonners Ferry, Idaho.....	a/13,300	1928-*
Trout Creek near Copeland, Idaho.....	a/20	1928-34.
Kootenai River at Spurling Ranch, near Copeland, Idaho...	-	1928-30*.
Kootenai River at Des Voigne Ranch, near Copeland, Idaho.	-	1929*†.
Kootenai River at Krause Ranch, near Copeland, Idaho.....	-	1929-30*.
Kootenai River at Ashby Ranch, near Copeland, Idaho.....	-	1929*†.
Mission Creek at Copeland, Idaho.....	31.0	1928-34.
Brush Creek near Copeland, Idaho.....	7.2	1928-34.
Rock Creek near Copeland, Idaho.....	14.3	1928-34.
Kootenai River near (at) Copeland, Idaho.....	a/13,400	(1925-27*)m/; 1927-29*; 1929-
Kootenai River at Jerome Slough, near Copeland, Idaho....	-	1929-30*†.
Parker Creek near Copeland, Idaho.....	16.5	1928-34.
Kootenai River at Lucas Creek, near Porthill, Idaho.....	-	1928-30*; 1932-35*; 1937-39*.
Long Canyon Creek near Porthill, Idaho.....	a/29	1928-
Smith Creek near Porthill, Idaho.....	a/70	1928-
Boundary Creek near Porthill, Idaho.....	97	1928-
Kootenai River at (near) Porthill, Idaho.....	a/13,700	1904*; (1924-27*)m/; 1927-28*; 1928-
Kootenay Lake at Kuskonook, British Columbia.....	-	1936-*
Columbia River at Birchbank (Trail), British Columbia....	a/34,000	1913-
Pend Oreille River basin		
Clark Fork (head of Pend Oreille River):		
German Gulch Creek near Ramsay, Mont.....	a/42	1955-
Racetrack Creek near Anaconda, Mont.....	39.5	1911-12; 1914-17*.
Little Blackfoot River and ditch near Elliston, Mont...	-	1910-15*.
Flint Creek:		
Georgetown Lake near Southern Cross, Mont.....	50.1	1939-†
Flint Creek near Southern Cross, Mont.....	52.6	1940-
Trout Creek above main canal, near Philipsburg, Mont.	4.16	1945-49.
Trout Creek near Southern Cross, Mont.....	34.8	1945-51.
Trout Creek near Philipsburg, Mont.....	34.9	1939-43; 1945-46.
Marshall Creek near Philipsburg, Mont.....	22.8	1942-43.
Marshall Creek at mouth, near Philipsburg, Mont.....	23.2	1939-42.
Flint Creek near Philipsburg, Mont.....	192	1939-40.
Flint Creek above Maxville Siding, at Maxville, Mont...	207	1939-41.
Flint Creek at Maxville, Mont.....	208	1941-
Boulder Creek at Maxville, Mont.....	71.3	1939-
Flint Creek near Maxville, Mont.....	325	1946-49.
Flint Creek near Hall, Mont.....	325	1939.
Flint Creek near Drummond, Mont.....	490	1948-49.
Middle Fork Rock Creek near Philipsburg, Mont.....	123	1937-
East Fork Rock Creek:		
East Fork Rock Creek Reservoir near Philipsburg, Mont.....	30.3	1939-†
East Fork Rock Creek near Philipsburg, Mont.....	30.3	1935-43.
Rock Creek near Quigley, Mont.....	749	1922-27.
Ranch Creek near Quigley, Mont.....	42.7	1922-27.
Rock Creek below Ranch Creek, near Quigley, Mont.....	794	1910-12.
Blackfoot River near Helmville, Mont.....	481	1940-53.
Nevada Creek above reservoir, near Finn, Mont.....	128	1939-
Nevada Creek near Finn, Mont.....	144	1934-39.
Nevada Creek Reservoir near Finn, Mont.....	145	1939-†
Nevada Creek near Helmville, Mont.....	165	1946-49.
Douglas Creek near Helmville, Mont.....	84.8	1946-47.
North Fork Blackfoot River near Ovando, Mont.....	228	1921-23.
Blackfoot River near Ovando, Mont.....	1,274	1940-
Blackfoot River at Clearwater, Mont.....	1,550	1921-23.
Clearwater River at Clearwater, Mont.....	391	1921-23.
Blackfoot River near Bonner, Mont.....	2,294	1898-1901†; 1903-5; 1939-
Clark Fork above Missoula, Mont.....	5,999	1929-
Rattlesnake Creek at Missoula, Mont.....	79.7	1899; 1900*.
Clark Fork at Missoula, Mont.....	6,084	1898-1907.

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‡ Fragmentary record.

a/ Approximately.

m/ In Dominion water-resources reports of Canada.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Pend Oreille River basin--Continued		
Clark Fork--Continued		
West Fork Bitterroot River Reservoir near Conner, Mont.	317	1940-†
West Fork Bitterroot River near Conner, Mont.....	317	1941-
West Fork Bitterroot River near Darby, Mont.....	552	1910-16; 1917‡.
East Fork Bitterroot River at Conner (near Darby), Mont.....	405	1910-15‡; 1915-16‡; 1937-
Bitterroot River near Darby, Mont.....	1,049	1937-
Rock Creek:		
Como Lake near Darby, Mont.....	54.6	1939-†
Rock Creek near Darby, Mont.....	55.4	1946-47; 1948-53.
Rock Creek Canal near Darby, Mont.....	-	1946; 1948-53.
Bitterroot River near Grantsdale, Mont.....	1,414	1902-7.
Skalkaho Creek near Hamilton, Mont.....	87.8	1949-53.
Skalkaho Creek at Brennan's ranch, near Hamilton, Mont.....	96.2	1920-24.
Blodgett Creek near Corvallis, Mont.....	26.4	1946-
Blodgett Creek near Hamilton, Mont.....	29.2	1938-43.
Willow Creek near Corvallis, Mont.....	22.4	1920-24.
Willow Creek at Anfinson Ranch, near Corvallis, Mont.	23.2	1938-43.
Fred Burr Creek near Victor, Mont.....	18.4	1946-51.
Bear Creek near Victor, Mont.....	26.8	1938-54.
Kootenai Creek near Stevensville, Mont.....	28.9	1948-53.
Burnt Fork Creek near Stevensville, Mont.....	74.0	1920; 1922-24; 1938-
Lolo Creek near Lolo, Mont.....	231	1911-14.
Lolo Creek above Sleeman Creek, near Lolo, Mont.....	250	1950-
Bitterroot River near Missoula, Mont.....	2,812	1898-1904.
Clark Fork below Missoula, Mont.....	9,003	1929-
Clark Fork at Tarkio, Mont.....	9,882	1944-49.
St. Regis River near St. Regis, Mont.....	300	1910-17.
Clark Fork at St. Regis, Mont.....	10,709	1910-
Flathead River at Flathead, British Columbia (near Trail Creek, Mont).....	a/450	1929-
Flathead River (North Fork) near Columbia Falls, Mont..	1,553	1910-17; 1929-
Middle Fork Flathead River:		
Bear Creek:		
Skyland Creek near Essex, Mont.....	8.09	1946-52.
Bear Creek near Essex, Mont.....	20.7	1946-52.
Middle Fork Flathead River at Essex, Mont.....	510	1939-
Middle Fork Flathead River at West Glacier (Belton), Mont.....	943	1910-23; 1929-33; 1943-47.
Lake McDonald Outlet at Lake McDonald, Mont.....	175	1912-14.
Middle Fork Flathead River near West Glacier (Belton), Mont.....	1,128	1939-
South Fork Flathead River at Spotted Bear ranger station, near Hungry Horse, Mont.....	958	1948-
Spotted Bear River near Hungry Horse, Mont.....	184	1948-
Twin Creek near Hungry Horse, Mont.....	47.0	1948-
Lower Twin Creek near Hungry Horse, Mont.....	22.4	1948-
Sullivan Creek near Hungry Horse, Mont.....	71.3	1948-
Graves Creek near Hungry Horse, Mont.....	33.0	1948-
Hungry Horse Reservoir near Hungry Horse, Mont.....	1,654	1951-
South Fork Flathead River near Columbia Falls, Mont..	1,667	1910***; 1911-13; 1914-16‡; 1923-25; 1926‡; 1927-
Flathead River at Columbia Falls, Mont.....	4,464	1922-23; 1928-
Flathead River near Kalispell, Mont.....	-	1928-45*.
Stillwater River:		
Logan Creek at Tally Lake, near Whitefish, Mont....	183	1931-33; 1934; 1936-42; 1945-47.
Logan Creek near Whitefish, Mont.....	199	1931.
Stillwater River near Whitefish, Mont.....	325	1930-50.
Stillwater River near Kalispell, Mont.....	338	1906; 1907‡; 1922; 1928-3Q
Whitefish Creek near Kalispell, Mont.....	170	1906‡; 1928-50.
Flathead River at Demersville, near Kalispell, Mont....	-	1909-12‡; 1928-45*.
Ashley Creek near Kila, Mont.....	44.2	1916.

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‡ Fragmentary record.

*** Discharge measurements only.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Pend Oreille River basin--Continued		
Clark Fork--Continued		
Flathead River--Continued		
Ashley Creek near Kalispell, Mont.....	201	1931-33; 1934-50.
Flathead River at Damon Ranch, near Kalispell, Mont....	-	1909-12*; 1928-45*.
Flathead River at Therriault Ferry, near Kalispell, Mont.....	-	1934-45*.
Flathead River (at Keller Ranch), near Holt, Mont.....	-	1909-12*; 1928-45*.
Flathead Lake near Holt, Mont.....	-	1900*.
Swan River near Bigfork, Mont.....	671	1910-11*; 1922-
Hell Roaring (Big) Creek near Polson, Mont.....	6.41	1917-32.
Flathead Lake at Somers, Mont.....	7,086	1908-
Flathead Lake at Polson, Mont.....	7,086	1900-1901*; 1908-26*; 1928-41*.
Flathead River near Polson, Mont.....	7,096	1907-
Little Bitterroot Lake near Marion, Mont.....	31.8	1940-†
Little Bitterroot River near Marion, Mont.....	31.8	1910-16.
Hubbart Reservoir near Niarada, Mont.....	114	1939-†
Little Bitterroot River near Hubbart, Mont.....	134	1909-16.
Little Bitterroot River near Niarada (Dayton), Mont..	223	1908-9; 1916-17.
Dry Fork Creek:		
Upper Dry Fork Reservoir near Lonepine, Mont.....	8.53	1940-†
Dry Fork Reservoir near Lonepine, Mont.....	17.8	1939-†
Crow Creek near Ronan, Mont.....	46.1	1906-17.
Mud Creek near Ronan, Mont.....	30.4	1908-10.
Crow Creek at Lozeau's ranch, near Ronan, Mont.....	139	1911-16.
Mission Creek:		
Dry Creek near St. Ignatius, Mont.....	19.5	1908-16.
Mission Creek near St. Ignatius, Mont.....	74.8	1906-17.
Post Creek at Fitzpatrick's ranch, near Ronan (St. Ignatius), Mont.....	28.4	1906-11.
Post Creek at Deschamp's ranch, near Ronan, Mont...	29.7	1911.
Post Creek near St. Ignatius, Mont.....	47.6	1911-17.
Mission Valley reservoirs, Mont.....	-	1939-†
South Fork Jocko River:		
Middle Fork Jocko River:		
Lower Jocko Lake near Arlee, Mont.....	7.39	1939-†
Middle Fork Jocko River near Jocko, Mont.....	14.9	1912-16.
South Fork Jocko River near Jocko, Mont.....	72.3	1912-16.
North Fork Jocko River near Jocko, Mont.....	19.5	1912-16.
Falls Creek near Jocko, Mont.....	3.57	1912-16.
Jocko River near Jocko, Mont.....	140	1918-19.
Big Knife Creek above Big Knife Canal, near Jocko, Mont.....	7.16	1910-16.
Big Knife Creek near Jocko, Mont.....	7.44	1908*; 1909-10.
Jocko River below Big Knife Creek, near Jocko, Mont..	154	1908*; 1909-16.
Agency Creek near Jocko, Mont.....	4.00	1908*; 1909-16.
Blodgett Creek near Jocko, Mont.....	5.48	1909; 1910*.
Finley Creek:		
East Finley Creek near Jocko, Mont.....	5.48	1908*; 1909-16.
Indian ditch near Jocko, Mont.....	-	1908*; 1909-16.
Finley Creek near Jocko, Mont.....	36.7	1908*; 1909-16.
Valley Creek near Ravalli, Mont.....	64.1	1908*; 1909-10; 1911***.
Jocko River at Ravalli, Mont.....	348	1906-11.
Revais Creek near Dixon, Mont.....	35.0	1911-16; 1917-19.
Clark Fork near Plains, Mont.....	19,958	1910-
Thompson River near Thompson Falls, Mont.....	643	1911; 1911-16*.
Thompson Falls Reservoir at Thompson Falls, Mont.....	20,968	1939-†
Prospect Creek near Thompson Falls, Mont.....	145	1911; 1911-16*.
Clark Fork at Thompson Falls, Mont.....	21,113	1951-
Clark Fork near Heron, Mont.....a/21,800	-	1928-52.
Clark Fork at Cabinet, Idaho.....	-	1952-
Pend Oreille Lake at Hope (Sandpoint), Idaho.....a/22,900	-	1914-g/
Priest Lake at outlet, near Coolin, Idaho.....	572	1911-13*; 1928-*
Priest River at outlet of Priest Lake, near Coolin, Idaho.....	572	1911*; 1912-48.
Priest River near Coolin, Idaho.....	611	1948-

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

*** Discharge measurements only.

g/ Daily gage heights and monthly contents.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Pend Oreille River basin--Continued		
Priest River at Falk's ranch, near Priest River, Idaho.	792	1911-12.
Priest River near (at) Priest River, Idaho.....	902	1903-5; 1910-11; 1923; 1929-
Pend Oreille River (Clark Fork) at Newport, Wash. (Priest River, Idaho).....	a/24,200	1903-41; 1952-
Calispell Creek near Dalkena, Wash.....	67.8	1950-
Pend Oreille River below Box Canyon, near Ione, Wash....	a/25,000	1954-
Sullivan Creek:		
Sullivan Lake near Metaline Falls, Wash.....	-	1912-23*.
Sullivan Creek near Metaline Falls, Wash.....	122	1912-24; 1925†.
Sullivan Creek at Metaline Falls, Wash.....	142	1953-
Pend Oreille River (Clark Fork) below Z Canyon, near (at) Metaline Falls, Wash.....	a/25,200	1908-10*; 1912-
Salmo (Salmon) River near Waneta, British Columbia.....	a/500	1936-46.
Columbia River at international boundary.....	a/59,700	1937-
Sheep Creek basin		
Sheep Creek near Velvet, Wash.....	171	1929-32.
Sheep Creek near Northport, Wash.....	225	1929-42.
Kettle River basin		
Kettle River:		
Myers Creek near Myncaster, British Columbia.....	85.7	(1923-24*)m/; 1926-29†; 1929-50†.
Kettle River near Ferry, Wash.....	a/2,220	1928-
Curlew Lake near Malo, Wash.....	65.9	1953-*
Curlew Creek near Malo, Wash.....	66.8	1951-54.
Curlew Creek near Curlew, Wash.....	89.8	1917-21.
Kettle River at Curlew, Wash.....	-	1911-12*.
Kettle River at Cascade, British Columbia.....	a/3,550	1916-30†; 1930-34.
Kettle River near Laurier, Wash.....	a/3,800	1929-
Kettle River at Boyds, Wash.....	a/4,070	1913-15.
Columbia River at Kettle Falls, Wash.....	a/64,500	(1895-1915*; 1921-41*)p/; 1913-16†; 1916-41.
Colville River basin		
Colville River:		
Loon Lake:		
Deer Lake near Loon Lake, Wash.....	17.8	1952-*
Loon Lake near Loon Lake, Wash.....	33.4	1950-*
Sheep Creek at Loon Lake, Wash.....	36.2	1950; 1951***; 1952-
Sheep Creek at Springdale, Wash.....	46.9	1953-
Colville River at Blue Creek, Wash.....	435	1922-24.
Mill Creek near Colville, Wash.....	a/82	1939-
Colville River at Kettle Falls (Meyers Falls), Wash.....	a/1,050	1922-
Hall Creek basin		
Hall Creek at (near) Inchelium, Wash.....	r/170	1912-29.
Stranger Creek basin		
Stranger Creek at Meteor, Wash.....	r/56	1916-29.
Stranger Creek at Inchelium, Wash.....	r/74	1914-17.
Spokane River basin		
Coeur d'Alene River (head of Spokane River) above		
Shoshone Creek, near Prichard, Idaho.....	335	1950-
Coeur d'Alene (North Fork Coeur d'Alene) River at		
Prichard, Idaho.....	441	1911-14.
Coeur d'Alene River near Prichard, Idaho.....		
583		1944-53.
North Fork Coeur d'Alene (Little North Fork Coeur		
d'Alene) River near Enaville, Idaho.....	a/170	1911-12.
Coeur d'Alene (North Fork Coeur d'Alene) River at		
Enaville, Idaho.....	895	1911-13; 1939-
Coeur d'Alene River near Cataldo, Idaho.....		
1,220		1911-12; 1920-
St. Joe River at Avery, Idaho.....		
594		1911-17.
St. Joe River at (near) Calder, Idaho.....		
a/1,030		1911-12; 1920-
St. Maries River at Lotus, Idaho.....		
437		1911-12; 1920-

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

*** Discharge measurements only.

a/ Approximately.

m/ In Dominion water-resources reports of Canada.

p/ In reports of U. S. Weather Bureau.

r/ About.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Upper Columbia River basin--Continued</u>		
<u>Spokane River basin--Continued</u>		
Coeur d'Alene Lake at Coeur d'Alene, Idaho.....	a/3,700	1903-d/ 1948-53.
Hayden Creek below North Fork, near Hayden Lake, Idaho.....	22.0	1946-48.
Hayden Creek near Hayden Lake, Idaho.....	26.0	1920-*
Hayden Lake at Hayden Lake, Idaho.....	-	1946-53.
Hayden Lake Irrigation District diversion near Hayden Lake, Idaho.....	-	1946-
Rathdrum Prairie Canal at Huetter, Idaho.....	-	1911-17; 1919-
Spokane Valley Farms Co.'s canal (Spokane Valley Land and Water Co.'s canal) at Post Falls, Idaho.....	-	1913-
Spokane River near (at) Post Falls, Idaho.....	s/3,840	1950-†
Liberty Lake at Liberty Lake, Wash.....	13.7	1950-
Spokane River above Liberty Bridge, near Otis Orchards, Wash.....	3,880	1950-
Spokane River at Greenacres, Wash.....	4,150	1948-52.
Spokane River at Trent, Wash.....	4,210	1911-13.
Spokane River below Trent Bridge, near Spokane, Wash.....	4,210	1948-54.
Spokane River below Green Street, at Spokane, Wash.....	4,230	1948-52.
Spokane River at Spokane, Wash.....	4,290	1891-
Latah (Hangman) Creek at Tekoa, Wash.....	130	1904; 1905†.
North Fork Latah (Hangman) Creek at Tekoa, Wash.....	r/60	1904; 1905†.
Latah Creek at Spokane, Wash.....	619	1948-
Spokane River above Seven-Mile Bridge, near Spokane, Wash.....	4,970	1948-52.
<u>Deep Creek:</u>		
Medical Lake at Medical Lake, Wash.....	1.50	1953-*
Deep Creek near Spokane, Wash.....	76.6	1949; 1950†.
Spokane River below Nine-Mile Dam, near Spokane, Wash....	5,110	1948-50.
Little Spokane River at Scotia, Wash.....	74.2	1948.
Little Spokane River at Elk, Wash.....	115	1948-
Diamond Lake (head of West Branch Little Spokane River) near Newport, Wash.....	5.70	1953-*
Sacheen Lake near Newport, Wash.....	32.2	1954-*
Eloika Lake near Elk, Wash.....	87.5	1953-*
Little Spokane River at Milan, Wash.....	274	1948.
Little Spokane River at Chattaroy, Wash.....	300	1948.
<u>Dragoon Creek:</u>		
Wethey Creek near Deer Park, Wash.....	12.0	1948.
Deep Creek at Colbert, Wash.....	32.6	1948.
Little Spokane River at Dartford, Wash.....	665	1929-32; 1946-
Little Spokane River near Dartford, Wash.....	698	1948-52.
Little Spokane River near Spokane, Wash.....	701	1903-5*; 1911-13*; 1913.
Long Lake at Long Lake, Wash.....	a/5,920	1913-†
Spokane River at Long Lake, Wash.....	a/5,920	1939-
Spokane River below Little Falls, near Long Lake, Wash....	a/6,220	1912-40.
<u>Sanpoil River basin</u>		
<u>Sanpoil River:</u>		
<u>West Fork Sanpoil River:</u>		
Lost Creek near Aeneas, Wash.....	r/84	1920-21.
Sanpoil River near Keller, Wash.....	a/890	1952-55.
Sanpoil River at Keller, Wash.....	a/940	1911-17.
<u>Franklin D. Roosevelt Lake:</u>		
Feeder canal at Grand Coulee, Wash.....	-	1951-
<u>Franklin D. Roosevelt Lake (Columbia River Reservoir) at</u>		
Grand Coulee Dam, Wash.....	a/74,100	1938-
Columbia River at (Grand Coulee) Grand Coulee Dam (near Nespelem, Wash.....	a/74,100	1913-23†; 1923; 1924-28†; 1928-
<u>Nespelem River basin</u>		
<u>Nespelem River:</u>		
Nespelem Canal at Nespelem, Wash.....	-	1921-29.
Nespelem River at (near) Nespelem, Wash.....	107	1911-29.
Columbia River at Bridgeport, Wash.....	a/75,000	1952-
<u>Okanogan River basin</u>		
Okanogan River at Okanogan Falls, British Columbia.....	a/2,650	1915-30†; 1930-

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

d/ In water-supply bulletins of State of Washington.

r/ About.

s/ 122 sq mi in the vicinity of Hayden Lake is probably noncontributing above this station.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Okanogan River basin--Continued		
Osoyoos Lake near Oroville, Wash.....	a/3,150	1928-*
Okanogan River at Oroville, Wash.....	a/3,210	1942-
Similkameen River:		
Sinlahekin Creek above Blue Lake, near Loomis, Wash..	41.7	1924-30.
Sinlahekin Creek at Blue Lake, near Loomis, Wash.....	42.9	1920.
Sinlahekin Creek at twin bridges, near Loomis, Wash..	75.5	1921-23.
Sinlahekin Creek near Loomis, Wash.....	a/86	1903†; 1904; 1905†.
Toats Coulee Creek near Loomis, Wash.....	132	1920-26.
Similkameen River near Nighthawk, Wash.....	a/3,550	1928-
Oroville-Tonasket (West Okanogan Valley) Irrigation		
District Canal near Oroville, Wash.....	-	1916-21†; 1922-28.
Similkameen River near Oroville, Wash.....	a/3,570	1911-28.
Whitestone Lake near Tonasket, Wash.....	-	1955-
Bonaparte Creek near Anglin, Wash.....	a/110	1920-21.
Okanogan River near Tonasket, Wash.....	a/7,270	1929-
Johnson Creek near Riverside, Wash.....	68.2	1903-7.
Okanogan River at Okanogan, Wash.....	a/7,900	1911-25; (1925-29†)d/.
Salmon Creek near Conconully (Okanogan), Wash.....	121	1910-22.
Salmon Creek near Okanogan (Malott), Wash.....	156	1903-10; 1910-12*.
Methow River basin		
Methow River:		
Chewack Creek below Boulder Creek, near Winthrop, Wash.	475	1920-21.
Chewack Creek at Winthrop, Wash.....	544	1912-13.
Methow River near Winthrop, Wash.....	a/1,020	1912.
Twisp River at Twisp, Wash.....	250	1911-13*.
Methow River at Twisp, Wash.....	a/1,330	1919-29; 1929-33†; 1933-
Alta Lake near Pateros, Wash.....	-	1954-*
Methow River at Pateros, Wash.....	a/1,810	1903-20.
Chelan River basin		
Stehekin River (head of Chelan River) at Stehekin, Wash..	t/372	1910-15; 1926-
Railroad Creek at Lucerne, Wash.....	64.8	1910-15; 1926-
Lake Chelan at Chelan, Wash.....	952	1897-99*; 1905*; 1910-11*; 1911-
Chelan River at Chelan (below Chelan Lake), Wash.....	951	1903-
Entiat River basin		
Entiat River at Entiat, Wash.....	419	1910-25; 1951-
Pine Canyon Creek basin		
Pine Canyon Creek near Waterville, Wash.....	11.1	1945-47.
Wenatchee River basin		
Wenatchee Lake:		
White River near Plain (Chiwaukum), Wash.....	150	1911-14; 1954-
Wenatchee Lake near Plain, Wash.....	276	1932-*
Wenatchee River below Wenatchee Lake, Wash.....	276	1932-
Nason Creek near Nason, Wash.....	88.7	1911.
Chiwawa River:		
Phelps Creek near Plain, Wash.....	16.0	1926-31.
Chiwawa River (Creek) near Plain (Leavenworth), Wash...	170	1911-14; 1936-49; 1954-
Wenatchee River at Plain (near Leavenworth), Wash.....	591	(1904-10†)d/; 1910-29; 1929-31†; 1931-
Chiwaukum Creek near Chiwaukum, Wash.....	49.6	1911.
Icicle Creek above Snow Creek, near Leavenworth, Wash..	193	1936-
Icicle Creek near Leavenworth, Wash.....	211	1911-14.
Wenatchee River at Peshastin, Wash.....	a/1,000	1928-
Peshastin Creek at Blewett, Wash.....	40.0	1911-12.
Peshastin Creek below Ingalls Creek, near Leavenworth,		
Wash.....	101	1911-12.
Wenatchee Valley Canal at Dryden, Wash.....	-	1911-17.
Wenatchee River at Dryden (Cashmere), Wash.....	a/1,160	1904-17.
Mission Creek near Cashmere, Wash.....	77.9	1954-
Sand Creek near Cashmere, Wash.....	19.8	1954-
Wenatchee River near Wenatchee, Wash.....	a/1,310	1897.
Douglas Creek basin		
Douglas Creek near Alstowm, Wash.....	114	1949-55.
Douglas Creek near Palisades, Wash.....	206	1949-52.
Douglas Creek at Palisades, Wash.....	844	1951-55†.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

d/ In water-supply bulletins of State of Washington.

t/ Includes that of Boulder Creek.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Columbia River at Trinidad (at Wenatchee and at Vernita), Wash.....	a/89,700	(1895-*)p/; 1910*; 1913-
Crab Creek basin		
Crab Creek at Irby, Wash.....	974	1942-
Wilson Creek at Wilson Creek, Wash.....	r/470	1951-
Crab Creek at Wilson Creek, Wash.....	r/470	1904*.
Crab Creek (Upper) at Adrian, Wash.....	r/1,950	1910-12.
Crab Creek near Moses Lake, Wash.....	r/2,040	1942-
Rocky Ford Creek:		
Park Creek near Coulee City, Wash.....	r/400	1942-45.
Park Lake near Coulee City, Wash.....	-	1938-*
Park Creek below Park Lake, near Coulee City, Wash...	r/400	1945-
Blue Lake near Coulee City, Wash.....	-	1938-*
Lenore Lake near Soap Lake, Wash.....	-	1936*; 1938-*
Soap Lake near Soap Lake, Wash.....	-	1936*; 1938-*
Rocky Ford (Upper Crab) Creek near Ephrata, Wash.....	u/r/500	1909-10; 1911; 1942-
Moses Lake at Moses Lake, Wash.....	2,970	1909-14*; 1936-*
Crab Creek (Lower) near Warden, Wash.....	v/r/4,150	1909-12; 1942-55.
Crab Creek near Othello, Wash.....	-	1955-
Crab Creek near Smyrna, Wash.....	v/r/4,500	1942-
Columbia River near Julia, Wash.....	-	1905*.
Columbia River at Hanford, Wash.....	-	1910*.
Yakima River basin		
Keechelus Lake near Martin, Wash.....	55.8	1906-26; 1926-†
Yakima River near Martin, Wash.....	55.8	1903-
Cabin Creek near Easton, Wash.....	31.7	1909-10; 1911†.
Kachess Lake near Easton, Wash.....	63.6	1905-26; 1926-†
Kachess River near Easton, Wash.....	63.6	1903-
Kittitas Canal at Easton, Wash.....	-	1930-†
Yakima River at Easton, Wash.....	182	1904; 1910-15; 1941-50†.
Big Creek near Cle Elum, Wash.....	-	1909†.
North Fork Cle Elum River at Galena, Wash.....	-	1907*; 1911*.
Cle Elum Lake near Roslyn, Wash.....	203	1906-26; 1926-†
Cle Elum River near Roslyn, Wash.....	203	1903-
Yakima River at Cle Elum, Wash.....	500	1906-
Teanaway River below Forks, near Cle Elum, Wash.....	174	1911-12.
Teanaway River near Cle Elum, Wash.....	200	1909-14; 1946-52.
Swauk Creek near Cle Elum, Wash.....	87.8	1909-11; 1911-14†.
Cascade Canal near Ellensburg (Thorp), Wash.....	-	1905*; 1909†; 1910; 1911†.
Taneum Creek near Thorp, Wash.....	76.3	1909-10; 1910-12*.
West Kittitas Canal near Thorp, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
Ellensburg Water Co.'s canal near Ellensburg, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
Manastash Creek near Ellensburg, Wash.....	75.8	1909-14.
Wilson Creek at Thrall, Wash.....	-	1911*.
Yakima River at Umtanum, Wash.....	a/1,590	1906-
Roza (Yakima Ridge) Canal (at mile 26.9) near Moxee City, Wash.....	-	1941-†
Selah-Moxee Canal near Selah (North Yakima), Wash.....	-	1904; 1905*; 1909-11†.
Wenas Creek near Selah, Wash.....	190	1909; 1910-12*.
Taylor Canal near Selah, Wash.....	-	1905*; 1909-11†.
Yakima River at Selah Gap, near North Yakima, Wash.....	a/2,130	1897; 1904; 1905*; 1911-12.
Naches River:		
Bumping Lake near Nile, Wash.....	68.6	1909*; 1910-26; 1926-†
Bumping River near Nile, Wash.....	68.6	1906; 1909-
American River near Nile, Wash.....	78.9	1909-11; 1913-15; 1939-
Naches River at Anderson Ranch, near Nile, Wash.....	392	1909-14.
Naches River at Oak Flat, near Nile, Wash.....	638	1904-17.
Selah Valley Canal near Naches, Wash.....	-	1904; 1905*; 1909†; 1910-12; 1913-14†; 1920-50.

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† Monthly figures of discharge or contents only.

‡ Fragmentary record.

a/ Approximately.

p/ In reports of U. S. Weather Bureau.

r/ About.

u/ Most of which is noncontributing on the surface.

v/ About 500 sq mi in the vicinity of Soap Lake is probably noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Yakima River basin--Continued		
Naches River--Continued		
North Fork Tieton River below Clear Creek, near Naches, Wash.....	61.5	1914-15.
Tieton Reservoir at Tieton Dam, near Naches, Wash....	187	1925-26; 1926-†
Tieton River at Tieton Dam (at McAllister Meadows), near Naches (at Rimrock), Wash.....	187	1908-14; 1918-19; 1919-21†; 1925- 1910-29; 1929-†
Tieton Canal near Naches, Wash.....	-	
Tieton River at headworks of Tieton Canal, near Naches, Wash.....	239	1906-
Tieton River above and below Oak Creek, near Naches ("near North Yakima", "near Naches", and "at Cobb's ranch"), Wash.....	296	1902-7; 1907-8†; 1908-13. 1904; 1905*; 1909†; 1910; 1911-14†; 1916-50†.
Wapatox Canal near Naches (North Yakima), Wash.....	-	1905; 1908-12; 1912-15†; 1915-
Naches River below Tieton River, near Naches, Wash.....	941	1904; 1905*; 1909†; 1910; 1911†.
Naches Canal Co. (Gleed) Canal near Naches, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
Yakima Valley (Congdon) Canal near Naches, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
Naches-Cowiche Canal near North Yakima, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
North Yakima power canal near North Yakima, Wash.....	-	1904; 1905*; 1910.
Schanno Canal near North Yakima, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
North Yakima power waste at North Yakima, Wash.....	-	1909-12.
North Yakima Milling Co. waste at North Yakima, Wash.....	-	1909-12.
Old Union Canal near North Yakima, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
Naches Avenue Union Canal at North Yakima, Wash....	-	1910.
Naches River near North Yakima, Wash.....a/1,100		1893-96*; 1896-1912; 1912-15†.
Moxee Co. canals near North Yakima, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
Fowler Canal near North Yakima, Wash.....	-	1904; 1905*; 1909†; 1910; 1911†.
North Fork Ahtanum Creek near Tampico, Wash.....	68.9	1907-24; 1925-31†; 1931-
South Fork Ahtanum Creek at Conrad Ranch, near Tampico, Wash.....	24.8	1915-24; 1925-31†; 1931-
South Fork Ahtanum Creek near Tampico, Wash.....	29.1	1907*; 1908-14.
Ahtanum Creek at The Narrows, near Tampico, Wash.....	121	1908-13.
Ahtanum Creek at Union Gap (near Yakima), Wash.....	171	1904; 1907-8; 1909*; 1910-14; 1951-53†.
Yakima River at Union Gap (near Yakima), Wash.....a/3,640		1893-96*; 1896-1914.
New Reservation Canal near (at) Parker (Yakima), Wash..	-	1904-21; 1921-†
Old Reservation Canal near (at) Parker (Wapato), Wash..	-	1904; 1905*; 1906-21; 1921-†
Sunnyside Canal near Parker (Wapato), Wash.....	-	1904-21; 1921-†
Yakima River near Parker (Wapato), Wash.....a/3,650		1908-21; 1921-31†; 1931-
Reservation drain at Alfalfa, Wash.....	-	1912-23.
Toppenish Creek near Fort Simcoe, Wash.....	120	1909-24.
Simcoe Creek below Spring Creek, near Fort Simcoe, Wash.....	81.5	1909-23.
Toppenish Creek near White Swan (Wapato), Wash.....	409	1909-11; 1911-12*.
Toppenish Creek at Alfalfa, Wash.....a/580		1909-12.
Satus Creek near Toppenish, Wash.....	271	1908-13.
Satus Creek below Dry Creek, near Toppenish, Wash.....	434	1913-24.
Yakima River near Mabton, Wash.....a/5,380		1911-12; 1913-14†.
Yakima River near Prosser, Wash.....a/5,440		1904-6; 1913-22; 1922-26†; 1926-33.
Kiona Canal near Kiona, Wash.....	-	1904; 1905*; 1908-9*; 1910; 1911†.
Yakima River at Kiona, Wash.....a/5,600		1895*; 1896-1915; 1933-
Kennewick Canal near Richland (Kennewick), Wash.....	-	1904; 1905*; 1910; 1911†.

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† Monthly figures of discharge or contents only.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Upper Columbia River basin--Continued		
Yakima River basin--Continued		
Lower Yakima Canal near Kiona, Wash.....	-	1905*; 1910; 1911†.
Yakima River near Richland, Wash.....	a/5,120	1906; 1907-8*; 1909-11.
Esquatzel Coulee basin		
Providence Coulee (head of Esquatzel Coulee) at Cunningham, Wash.....	27.8	1953-
Esquatzel Coulee at Connell, Wash.....	240	1953-
Esquatzel Coulee at Eltopia, Wash.....	394	1953-
Columbia River at Pasco, Wash.....	-	1904-10*.

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† Monthly figures of discharge or contents only.

a/ Approximately.

ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

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Bertrand Creek, Wash.....	10	Chewack Creek, Wash.....	16
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Big Creek, Wash. (tributary to Suiattle River).....	9	Chimacum Creek, Wash.....	3
Big Creek, Wash. (tributary to Yakima River).....	17	Chiwaukum Creek, Wash.....	16
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Big Soos Creek, Wash.....	6	Church Creek, Wash.....	8
Bingham Creek, Wash.....	2	City of Aberdeen Wynoochee River intake, Wash.....	3
Bitterroot Lake, Little, Mont.....	13	Clark Creek, Wash. (tributary to Cascade River).....	9
Bitterroot River, Mont.....	12	Clark Creek, Wash. (tributary to Puyallup River).....	6
Bitterroot River, East Fork, Mont.....	12	Clark Fork, Idaho, Mont.....	11,12,13
Bitterroot River, Little, Mont.....	13	Cle Elum Lake, Wash.....	17
Bitterroot River, West Fork, Mont.....	12	Cle Elum River, Wash.....	17
Bitterroot River Reservoir, West Fork, Mont.....	12	Cle Elum River, North Fork, Wash.....	17
Black River, Wash.....	2	Clear Creek, Wash.....	4
Blackfoot River, Mont.....	11	Clearwater River, Mont.....	11
Blackfoot River, Little, and ditch, Mont.	11	Clearwater River, Wash.....	3
Blackfoot River, North Fork, Mont.....	11	Cloquallum Creek, Wash. See Cloquallum River.	
Blackjack Creek, Wash.....	4	Cloquallum River, Wash.....	2
Blodgett Creek, Mont. (tributary to Agency Creek).....	13	Clover Creek, Wash.....	5
Blodgett Creek, Mont. (tributary to Bitterroot River).....	12	Coal Creek, Wash.....	10
Blue Lake, Wash.....	17	Coeur d'Alene Lake, Idaho.....	15
Boardman Creek, Wash.....	8	Coeur d'Alene River, Idaho.....	14
Boise Creek, Wash.....	5	Coeur d'Alene River, North Fork, Idaho...	14
Bonaparte Creek, Wash.....	16	Columbia River, British Columbia, Wash.	11,14,15,17,19
Boulder Creek, Idaho.....	10	Colville River, Wash.....	14
Boulder Creek, Mont.....	11	Como Lake, Mont.....	12
Boulder River, Wash.....	8	Cool Creek, Wash.....	9
Boundary Creek, Idaho.....	11	Cottage Lake Creek, Wash.....	6
Brush Creek, Idaho.....	11	Covington Creek, Wash.....	6
		Cow Creek, Idaho.....	10
		Crab Creek, Wash.....	17
		Cranberry Creek, Wash.....	4
		Crow Creek, Mont.....	13
		Cub Creek, Wash.....	8

ALPHABETICAL LIST OF STREAMS AND RESERVOIRS

Stream or Reservoir	Page	Stream or Reservoir	Page
Curlew Creek, Wash.....	14	French Creek, Wash.....	8
Curlew Lake, Wash.....	14	Friday Creek, Wash. (tributary to Green River).....	6
Dakota Creek, Wash.....	10	Friday Creek, Wash. (tributary to Samish River).....	9
Day Creek, Wash.....	9	Gale Creek, Wash.....	5
Deep Creek, Idaho.....	10	Garrod Creek, Wash.....	2
Deep Creek, Wash. (tributary to Little Spokane River).....	15	Georgetown Lake, Mont.....	11
Deep Creek, Wash. (tributary to Spokane River).....	15	German Gulch Creek, Mont.....	11
Deer Creek, Wash. (tributary to North Fork Stillaguamish River).....	8	Gilligan Creek, Wash.....	9
Deer Creek, Wash. (tributary to Puget Sound).....	4	Gold Creek, Wash.....	4
Deer Lake, Wash.....	14	Goldsborough Creek, Wash.....	5
Deer Meadow Creek, Wash.....	4	Goodell Creek, Wash.....	9
Deschutes River, Wash.....	5	Grandy Creek, Wash.....	9
Dewatto Creek, Wash.....	4	Granite Creek, Mont.....	10
Diablo Reservoir, Wash.....	8	Granite Creek, Wash.....	8
Diamond Lake, Wash.....	15	Grave Creek, Mont.....	10
Diobsud Creek, Wash.....	9	Graves Creek, Mont.....	12
Dogfish Creek, Wash.....	4	Green River, Wash.....	6
Dosewallips River, Wash.....	3	Greenwater River, Wash.....	5
Douglas Creek, Mont.....	11	Griffin Creek, Wash.....	7
Douglas Creek, Wash.....	16	Halfway Creek, Wash.....	2
Dow Creek, Wash.....	4	Hall Creek, Wash.....	14
Dry Creek, Mont.....	13	Hamma Hamma River, Wash.....	3,4
Dry Fork Reservoir, Mont.....	13	Hanaford Creek, Wash.....	2
Dry Fork Reservoir, Upper, Mont.....	13	Hansen Creek, Wash.....	9
Dubuque Creek, Wash.....	8	Harris Creek, Wash.....	7
Duckabush River, Wash.....	3	Hayden Creek, Idaho.....	15
Dungeness River, Wash.....	3	Hayden Lake, Idaho.....	15
Eagle Creek, Wash.....	4	Hayden Lake Irrigation District diversion, Idaho.....	15
East Creek, Wash.....	5	Hellroaring Creek, Mont.....	13
East Finley Creek, Mont.....	13	Hoh River, Wash.....	3
East Fork or Branch. See name of main stream.		Hoquiam River, West Fork, Wash.....	3
Elk Creek, Wash.....	2	Hubbart Reservoir, Mont.....	13
Elkhorn Creek, Wash.....	2	Huge Creek, Wash.....	4
Ellensburg Water Co.'s canal, Wash.....	17	Humtulsips River, Wash.....	3
Eloika Lake, Wash.....	15	Hungry Horse Reservoir, Mont.....	12
Elwell Creek, Wash.....	7	Hylebos Creek, Wash.....	6
Elwha River, Wash.....	3	Icicle Creek, Wash.....	16
Ennis Creek, Wash.....	3	Illabot Creek, Wash.....	9
Entiat River, Wash.....	16	Indian ditch, Mont.....	13
Esquatzel Coulee, Wash.....	19	Issaquah Creek, Wash.....	6
Evans Creek, Wash. (tributary to Bear Creek).....	6	Issaquah Creek, East Fork, Wash.....	6
Evans Creek, Wash. (tributary to Snohomish River).....	8	Jackman Creek, Wash.....	9
Fall River, Wash.....	2	Jenkins Creek, Wash.....	6
Falls Creek, Mont.....	13	Jim Creek, Wash.....	8
Feeder canal, Wash.....	15	Jimmycomelately Creek, Wash.....	3
Fennel Creek, Wash.....	5	Jocko Lake, Lower, Mont.....	13
Finch Creek, Wash.....	4	Jocko River, Mont.....	13
Finley Creek, Mont.....	13	Jocko River, Middle Fork, Mont.....	13
Finley Creek, East, Mont.....	13	Jocko River, North Fork, Mont.....	13
Finney Creek, Wash.....	9	Jocko River, South Fork, Mont.....	13
Fish Creek, Wash.....	8	Johns Creek, Wash.....	4
Fisher River, Mont.....	10	Johns River, Wash.....	2
Fishtrap Creek, Wash.....	10	Johnson Creek, Wash. (tributary to Okanogan River).....	16
Flathead Lake, Mont.....	13	Johnson Creek, Wash. (tributary to Sumas River).....	10
Flathead River, British Columbia, Mont..	12,13	Jones Creek, Wash.....	9
Flathead River, Middle Fork, Mont.....	12	Jordan Creek, Wash.....	9
Flathead River, South Fork, Mont.....	12	Juanita Creek, Wash.....	6
Flint Creek, Mont.....	11	Kachess Lake, Wash.....	17
Fork Creek, Wash.....	2	Kachess River, Wash.....	17
Fortine Creek, Mont.....	10	Kapowsin Creek, Wash.....	5
Foss River, Wash.....	7	Keechelus Lake, Wash.....	17
Foss River, East Fork, Wash.....	7	Kendall Creek, Wash.....	10
Fowler Canal, Wash.....	18	Kennedy Creek, Wash.....	5
Franklin D. Roosevelt Lake, Wash.....	15	Kennewick Canal, Wash.....	18
Fred Burr Creek, Mont.....	12	Kettle River, British Columbia, Wash.....	14
		Kiona Canal, Wash.....	18
		Kitsap Lake, Wash.....	4

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Stream or Reservoir	Page	Stream or Reservoir	Page
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Kittitas Canal, West, Wash.....	17	Miller River, West Fork, Wash.....	7
Kootenai Creek, Mont.....	12	Mineral Creek, Wash.....	5
Kootenai River, Idaho, Mont.....	10,11	Mission Creek, Idaho.....	11
Kootenay Lake, British Columbia.....	11	Mission Creek, Mont.....	13
Kootenay River, British Columbia.....	10	Mission Creek, Wash. (tributary to Puget Sound).....	4
La Grande Reservoir, Wash.....	5	Mission Creek, Wash. (tributary to Wenatchee River).....	16
Lake Chelan, Wash.....	16	Mission Lake, Wash.....	4
Lake Creek, Mont.....	10	Mission Valley reservoirs, Mont.....	13
Lake Crescent, Wash.....	3	Moses Lake, Wash.....	17
Lake Cushman, Wash.....	4	Moxee Co. canals, Wash.....	18
Lake Goodwin, Wash.....	8	Moyie River, Idaho.....	10
Lake McDonald Outlet, Mont.....	12	Muck Creek, Wash.....	5
Lake Mills, Wash.....	3	Mud Creek, Mont.....	13
Lake Sawyer, Wash.....	6	Mud Mountain Reservoir, Wash.....	5
Lake Shannon, Wash.....	9	Myers Creek, British Columbia.....	14
Lake Shoecraft, Wash.....	8	Myrtle Creek, Idaho.....	10
Lake Stevens, Wash.....	8	Naches Avenue Union Canal, Wash.....	18
Lake Tapps, Wash.....	6	Naches Canal Co. Canal, Wash.....	18
Latah Creek, Wash.....	15	Naches-Cowiche Canal, Wash.....	18
Latah Creek, North Fork, Wash.....	15	Naches River, Wash.....	17,18
Lenore Lake, Wash.....	17	Naselle River, Wash.....	2
Liberty Lake, Wash.....	15	Nason Creek, Wash.....	16
Lightning Creek, Wash.....	8	Nemah River, North, Wash.....	2
Lincoln Creek, Wash.....	2	Nespelem Canal, Wash.....	15
Little Bitterroot Lake, Mont.....	13	Nespelem River, Wash.....	15
Little Bitterroot River, Mont.....	13	Nevada Creek, Mont.....	11
Little Blackfoot River and ditch, Mont..	11	Nevada Creek Reservoir, Mont.....	11
Little Nisqually River, Wash.....	5	New Reservation Canal, Wash.....	18
Little North River, Wash.....	2	Newaukum Creek, Wash.....	6
Little Pilchuck Creek, Wash.....	8	Newaukum River, Wash.....	2
Little Quilcene River, Wash.....	3	Newaukum River, North Fork, Wash.....	2
Little Soos Creek, Wash.....	6	Newskah Creek, Wash.....	2
Little Spokane River, Wash.....	15	Nisqually River, Wash.....	5
Logan Creek, Mont.....	12	Nisqually River, Little, Wash.....	5
Lolo Creek, Mont.....	12	Nookachamps Creek, Wash.....	9
Long Canyon Creek, Idaho.....	11	Nookachamps Creek, East Fork, Wash.....	9
Long Lake, Wash.....	15	Nooksack River, Wash.....	10
Loon Lake, Wash.....	14	Nooksack River, Middle Fork, Wash.....	10
Lost Creek, Wash.....	15	Nooksack River, South Fork, Wash.....	10
Lower Jocko Lake, Mont.....	13	North Creek, Wash.....	6
Lower Twin Creek, Mont.....	12	North Fork or Branch. See name of main stream.	
Lower Yakima Canal, Wash.....	19	North Nemah River, Wash.....	2
Lynch Creek, Wash.....	5	North River, Wash.....	2
Lyre River, Wash.....	3	North River, Little, Wash.....	2
McAleer Creek, Wash.....	7	North Yakima Milling Co. waste, Wash.....	18
McAllister Springs, Wash.....	5	North Yakima power canal, Wash.....	18
McCoy Creek, Wash.....	7	North Yakima power waste, Wash.....	18
McTaggart Creek, Wash.....	4	Ohop Creek, Wash.....	5
Manastash Creek, Wash.....	17	Okanagan River, British Columbia.....	15
Marble Creek, Wash.....	9	Okanogan River, Wash.....	16
Marshall Creek, Mont.....	11	Old Reservation Canal, Wash.....	18
Mashel River, Wash.....	5	Old Union Canal, Wash.....	18
Mason Lake, Wash.....	4	Olney Creek, Wash.....	7
May Creek, Wash. (tributary to Lake Washington).....	6	Oroville-Tonasket Irrigation District Canal, Wash.....	16
May Creek, Wash. (tributary to Wallace River).....	7	Osoyoos Lake, Wash.....	16
Medical Lake, Wash.....	15	O'Tools Creek, Wash.....	9
Mercer Creek, Wash.....	6	Panther Creek, Wash. (tributary to Dubuque Creek).....	8
Methow River, Wash.....	16	Panther Creek, Wash. (tributary to Tahuya River).....	4
Middle Fork or Branch. See name of main stream.		Panther Lake, Wash.....	4
Mill Creek, Wash. (tributary to Colville River).....	14	Park Creek, Wash.....	17
Mill Creek, Wash. (tributary to Puget Sound).....	5	Park Lake, Wash.....	17
Mill Creek, Wash. (tributary to Willapa River).....	2	Parker Creek, Idaho.....	11
Miller Creek. See Miller River, Wash.		Patterson Creek, Wash.....	7
Miller Creek, West Fork. See Miller River, West Fork, Wash.		Pend Oreille Lake, Idaho.....	13
		Pend Oreille River, Idaho, Wash.....	14

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Stream or Reservoir	Page	Stream or Reservoir	Page
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Phelps Creek, Wash.....	16	Satsop River, East Fork, Wash.....	2
Pilchuck Creek, Wash.....	8	Satsop River, Middle Fork, Wash.....	2
Pilchuck Creek, Little, Wash.....	8	Satus Creek, Wash.....	18
Pilchuck River, Wash.....	8	Sauk River, Wash.....	9
Pine Canyon Creek, Wash.....	16	Sauk River, North Fork, Wash.....	9
Portage Creek, Wash.....	8	Sauk River, South Fork, Wash.....	9
Porter Creek, Wash.....	2	Scatter Creek, Wash.....	2
Post Creek, Mont.....	13	Schanno Canal, Wash.....	18
Powder Creek, Wash.....	7	Selah-Moxee Canal, Wash.....	17
Prairie Creek, South, Wash.....	5	Selah Valley Canal, Wash.....	17
Priest Lake, Idaho.....	13	Sheep Creek, Wash. (tributary to Columbia	
Priest River, Idaho.....	13,14	River).....	14
Prospect Creek, Mont.....	13	Sheep Creek, Wash. (tributary to Colville	
Providence Coulee, Wash.....	19	River).....	14
Purdy Creek, Wash.....	4	Shumocher Creek, Wash.....	4
Puyallup River, Wash.....	5,6	Siebert Creek, Wash.....	3
Queets River, Wash.....	3	Simcoe Creek, Wash.....	18
Quilceda Creek, Wash.....	8	Similkameen River, Wash.....	16
Quilcene River, Big, Wash.....	3	Sinlahekin Creek, Wash.....	16
Quilcene River, Little, Wash.....	3	Skagit River, British Columbia, Wash.....	8,9
Quinault River, Wash.....	3	Skalkaho Creek, Mont.....	12
Racetrack Creek, Mont.....	11	Skokomish River, Wash.....	4
Raging River, Wash.....	7	Skokomish River, North Fork, Wash.....	4
Railroad Creek, Wash.....	16	Skokomish River, South Fork, Wash.....	4
Ranch Creek, Mont.....	11	Skookum Creek, Wash. (tributary to Puget	
Rathdrum Prairie Canal, Idaho.....	15	Sound).....	5
Rattlesnake Creek, Mont.....	11	Skookum Creek, Wash. (tributary to South	
Reservation Canal, New, Wash.....	18	Fork Nooksack River).....	10
Reservation Canal, Old, Wash.....	18	Skookumchuck River, Wash.....	2
Reservation drain, Wash.....	18	Skykomish River, Wash.....	7
Revais Creek, Mont.....	13	Skykomish River, North Fork, Wash.....	7
Rex River, Wash.....	6	Skykomish River, South Fork, Wash.....	7
Rock Creek, Idaho.....	11	Skyland Creek, Mont.....	12
Rock Creek, Mont. (tributary to		Smay Creek, Wash.....	6
Bitterroot River).....	12	Smith Creek, Idaho.....	11
Rock Creek, Mont. (tributary to Clark		Snohomish River, Wash.....	8
Fork).....	11	Snoqualmie River, Wash.....	7
Rock Creek, East Port, Mont.....	11	Snoqualmie River, Middle Fork, Wash.....	7
Rock Creek, Middle Fork, Mont.....	11	Snoqualmie River, North Fork, Wash.....	7
Rock Creek, Wash. (tributary to Cedar		Snoqualmie River, South Fork, Wash.....	7
River).....	6	Snow Creek, Idaho.....	10
Rock Creek, Wash. (tributary to Chehalis		Snow Creek, Wash. (tributary to Green	
River).....	2	River).....	6
Rock Creek Canal, Mont.....	12	Snow Creek, Wash. (tributary to Puget	
Rock Creek diversion, Wash.....	6	Sound).....	3
Rock Creek Reservoir, East Fork, Mont...	11	Soap Lake, Wash.....	17
Rocky Creek, Wash.....	9	Soleduck River, Wash.....	3
Rocky Ford Creek, Wash.....	17	Soos Creek, Big, Wash.....	6
Roesiger Creek, Wash.....	7	Soos Creek, Little, Wash.....	6
Ross Reservoir, Wash.....	8	South Fork or Branch. See name of main	
Roza Canal, Wash.....	17	stream.	
Ruby Creek, Wash.....	8	South Prairie Creek, Wash.....	5
Saar Creek, Wash.....	10	Spokane River, Idaho, Wash.....	15
Sacheen Lake, Wash.....	15	Spokane River, Little, Wash.....	15
St. Joe River, Idaho.....	14	Spokane Valley Farms Co.'s canal, Idaho..	15
St. Maries River, Idaho.....	14	Spotted Bear River, Mont.....	12
St. Regis River, Mont.....	12	Spurgeon Creek, Wash.....	5
Salmo River, British Columbia.....	14	Squalicum Creek, Wash.....	10
Salmon Creek, Wash. (tributary to		Squire Creek, Wash.....	8
Naselle River).....	2	Stavis Creek, Wash.....	4
Salmon Creek, Wash. (tributary to		Stearns Creek, Wash.....	2
Okanogan River).....	16	Stehekin River, Wash.....	16
Salmon Creek, Wash. (tributary to Puget		Stetattle Creek, Wash.....	9
Sound).....	3	Stevens Creek, Wash.....	8
Salt River, Wash.....	3	Stillaguamish River, North Fork, Wash....	8
Samish River, Wash.....	9	Stillaguamish River, South Fork, Wash....	8
Sammamish Lake, Wash.....	6	Stillwater River, Mont.....	12
Sammamish River, Wash.....	6,7	Stranger Creek, Wash.....	14
Sand Creek, Wash.....	16	Stringer Creek, Wash.....	2
Sandy Creek, Wash.....	9	Stuck River, Wash.....	6
Sanpoil River, Wash.....	15	Suiattle River, Wash.....	9

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<u>Stream or Reservoir</u>	<u>Page</u>	<u>Stream or Reservoir</u>	<u>Page</u>
Suiattle River, Wash.....	9	Wadell Creek, Wash.....	2
Sullivan Creek, Mont.....	12	Wallace River, Wash.....	7
Sullivan Creek, Wash.....	14	Wapato Creek, Wash.....	8
Sullivan Lake, Wash.....	14	Wapatox Canal, Wash.....	18
Sultan River, Wash.....	7	Ward Creek, Wash.....	2
Sumas River, Wash.....	10	Weaver Creek, Wash.....	4
Sunnyside Canal, Wash.....	18	Wenas Creek, Wash.....	17
Swamp Creek, Wash.....	7	Wenatchee Lake, Wash.....	16
Swan River, Mont.....	13	Wenatchee River, Wash.....	16
Swauk Creek, Wash.....	17	Wenatchee Valley Canal, Wash.....	16
Tacoma power conduit, Wash.....	5	West Fork or Branch. <u>See</u> name of main stream.	
Tahuya Creek, Wash. <u>See</u> Tahuya River, Wash.		West Kittitas Canal, Wash.....	17
Tahuya River, Wash.....	4	Wethey Creek, Wash.....	15
Taneum Creek, Wash.....	17	Whatcom Creek, Wash.....	9
Tanwax Creek, Wash.....	5	Whatcom Lake, Wash.....	9
Taylor Canal, Wash.....	17	White River, Wash. (tributary to Puyallup River).....	5
Taylor Creek, Wash.....	8	White River, Wash. (tributary to Wenatchee River).....	16
Teanaway River, Wash.....	17	White River flume, Wash.....	5
Tenmile Creek, Wash.....	10	Whitechuck River, Wash.....	9
Thompson Falls Reservoir, Mont.....	13	Whitefish Creek, Mont.....	12
Thompson River, Mont.....	13	Whitestone Lake, Wash.....	16
Thornton Creek, Wash.....	7	Wildcat Creek, Wash.....	2
Thunder Creek, Wash.....	8	Wildcat Lake, Wash.....	4
Tieton Canal, Wash.....	18	Willapa River, Wash.....	2
Tieton Reservoir, Wash.....	18	Willapa River, South Fork, Wash.....	2
Tieton River, Wash.....	18	Willow Creek, Mont.....	12
Tieton River, North Fork, Wash.....	18	Wilson Creek, Wash. (tributary to Crab Creek).....	17
Toats Coulee Creek, Wash.....	16	Wilson Creek, Wash. (tributary to Yakima River).....	17
Tokul Creek, Wash.....	7	Wishkah River, Wash.....	3
Tolt River, Wash.....	7	Wood Creek, Wash.....	8
Tolt River, North Fork, Wash.....	7	Woodland Creek, Wash.....	5
Tolt River, South Fork, Wash.....	7	Woods Creek, Wash.....	7
Toppenish Creek, Wash.....	18	Woodward Creek, Wash.....	5
Troublesome Creek, Wash.....	7	Wynoochee River, Wash.....	2,3
Trout Creek, Idaho.....	11	Yaak River, Mont.....	10
Trout Creek, Mont.....	11	Yakima Canal, Lower, Wash.....	19
Twin Creek, Mont.....	12	Yakima Milling Co. waste, North.....	18
Twin Creek, Lower, Mont.....	12	Yakima power canal, North, Wash.....	18
Twisp River, Wash.....	16	Yakima power waste, North, Wash.....	18
Tye River, Wash.....	7	Yakima River, Wash.....	17,18,19
Union River, Wash.....	4	Yakima Valley Canal, Wash.....	18
Upper Dry Fork Reservoir, Mont.....	13		
Valley Creek, Mont.....	13		
Vance Creek, Wash.....	4		
Voight Creek, Wash.....	5		

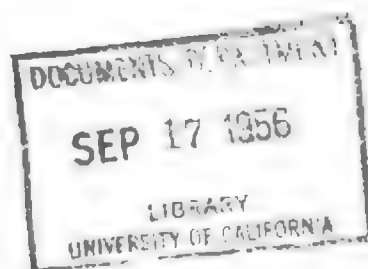


GEOLOGICAL SURVEY CIRCULAR 393



INDEX OF SURFACE-WATER RECORDS
TO SEPTEMBER 30, 1955

PART 13.—SNAKE RIVER BASIN



UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, *Secretary*

GEOLOGICAL SURVEY
Thomas B. Nolan, *Director*

GEOLOGICAL SURVEY CIRCULAR 393

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 13.—SNAKE RIVER BASIN

Washington, D. C., 1956

Free on application to the Geological Survey, Washington 25, D. C.

INDEX OF SURFACE-WATER RECORDS TO SEPTEMBER 30, 1955

PART 13.—SNAKE RIVER BASIN

By E. G. Bailey

EXPLANATION

This index lists the streamflow and reservoir stations in the Snake River basin for which records have been or are to be published in reports of the Geological Survey for periods prior to September 30, 1955. Periods of record for the same station published by other agencies are listed only when they contain more detailed information or are for periods not reported in publications of the Geological Survey.

The stations are listed in the downstream order first adopted for use in the 1951 series of water-supply papers on surface-water supply of the United States. Starting at the headwater of each stream all stations are listed in a downstream direction. Tributary streams are indicated by indentation and are inserted between main-stem stations in the order in which they enter the main stream. To indicate the rank of any tributary on which a record is available and the stream to which it is immediately tributary, each indentation in the listing of stations represents one rank. A stream name only is inserted where necessary for the purpose of showing the proper rank or order of tributaries.

Station names are given in their most recently published forms. Parentheses around part of a station name indicate that the enclosed word or words were used in an earlier published name of the station or in a name under which records were published by some agency other than the Geological Survey.

The drainage areas, in square miles, are the latest figures published or otherwise available at this time. Drainage areas that were obviously inconsistent with other drainage areas on the same stream have been omitted.

Under "period of record" breaks of less than a 12-month period are not shown. A dash not followed immediately by a closing date shows that the station was continued in operating beyond Sept. 30, 1955. The years given are calendar years. All periods of record not contained in water-supply papers on surface-water supply of the United States are indicated by appropriate footnotes.

Records both of gage height and of discharge are listed for streamflow stations, and records of gage height and of contents (or of change in contents) are listed for stations on reservoirs. Records of gage heights only and records consisting only of monthly figures either of streamflow or reservoir contents are designated by symbols and footnotes. For early years when daily discharges were not generally published by the Geological Survey, published daily gage heights and a published rating table were considered to be equivalent to daily discharges.

An alphabetical index of streams, canals, and reservoirs is given on pages 16 to 19.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River at south boundary of Yellowstone National Park.	485	1913-25.
Jackson Lake at Moran, Wyo.....	824	1909-17*; 1917-
Snake River (South Fork Snake River) at (near) Moran, Wyo..	824	1903-
<u>Tributaries between gaging stations at Moran and near</u>		
<u>Alpine, Wyo.</u>		
Pacific Creek near Moran, Wyo.....	160	1906*; 1917-18; 1944-
Buffalo Fork (River) near Moran (Elk), Wyo.....	378	1906*; 1917-18; 1944-
Spread Creek near Elk, Wyo.....	101	1917-18.
Spring Creek near Teton, Wyo.....	-	1917-18.
Cottonwood Creek near Teton, Wyo.....	72.3	1917-18.
Gros Ventre River at Kelly, Wyo.....	622	1918; 1944-
Gros Ventre River at Zenith, Wyo.....	683	1917-18.
Spring Creek at Zenith, Wyo.....	-	1917-18.
Spring Creek near Zenith, Wyo.....	-	1917-18.
Spring Creek at West Gros Ventre Butte, Wyo.....	-	1918.
Fish Creek near Wilson, Wyo.....	87.4	1917-18.
Mosquito Creek near Wilson, Wyo.....	24.2	1917-18.
Big Spring Creek near Cheney, Wyo.....	-	1918.
Flat Creek near Jackson, Wyo.....	40.7	1933-41.
Flat Creek near Cheney, Wyo.....	144	1917-18.
Horse Creek near Cheney, Wyo.....	37.9	1917-18.
Hoback River near Jackson (Cheney), Wyo.....	564	1917-18; 1944-
Fall Creek near Cheney, Wyo.....	46.8	1917-18.
Dog Creek near Cheney, Wyo.....	14.1	1917-18.
Cabin Creek near Cheney, Wyo.....	8.8	1917-18.
Bailey Creek near Alpine, Idaho (Wyo.).....	15.9	1917-18.
Wolf Creek near Alpine, Idaho (Wyo.).....	13.2	1917-18.
Snake River above reservoir (above Greys River), near		
Alpine, Idaho (Wyo.).....	3,465	1937-39; 1953-
<u>Greys River basin</u>		
Greys River above reservoir, near Alpine, Idaho (Wyo.)...	451	1917-18; 1937-39; 1953-
Snake River below Greys River, at Alpine, Idaho.....	3,940	1944-54.
<u>Salt River basin</u>		
Salt River near Smoot, Wyo.....	47.8	1932-
Cottonwood Creek near Smoot, Wyo.....	26.3	1933-
Swift Creek near Afton, Wyo.....	27.4	1943-
Crow Creek near Fairview, Wyo.....	114	1946-49.
Stump Creek near Auburn, Wyo.....	103	1946-49.
Salt River near Thayne, Wyo.....	570	1932-33.
Strawberry Creek near Bedford, Wyo.....	21.3	1932-43.
Salt River above reservoir, near Etna, Wyo.....	829	1953-
Salt River near Alpine, Idaho.....	878	1917-18.
Salt River at Wyoming-Idaho State line.....	890	1934-
Snake River near (at) Alpine, Wyo. (Idaho).....	4,841	1916-18; 1934.
<u>Tributaries between gaging stations near Alpine and at</u>		
<u>Calamity Point, Idaho</u>		
McCoy Creek above reservoir, near Alpine, Idaho (Wyo.)...	108	1917-18; 1934; 1953-
Indian Creek above reservoir, near Alpine (near Blowout),		
Idaho.....	36.8	1917-18; 1953-
Elk Creek (Big) above reservoir, near Irwin (Blowout), Idaho.	59.2	1917-18; 1934; 1953-
Little Elk Creek near Blowout, Idaho.....	11.4	1917.
Snake River at Calamity Point, near Irwin, Idaho.....	5,124	1934-36; 1939-41.
<u>Bear Creek basin</u>		
Bear Creek above reservoir, near Irwin, Idaho.....	77.1	1917-18; 1934-36; 1953-
Snake River near Irwin, Idaho.....	5,225	1935-36; 1949-
<u>Palisades Creek basin</u>		
<u>Palisades Creek:</u>		
Palisades Canal near Irwin, Idaho.....	-	1935-36.
Palisades Creek near Irwin, Idaho.....	60.8	1917-18; 1934-36.
<u>Fall Creek basin</u>		
Fall Creek near Swan Valley, Idaho.....	78.6	1917-18; 1934-36.
<u>Rainy Creek basin</u>		
Rainy Creek near (at) Swan Valley, Idaho.....	56.3	1917-18; 1934-36.
Snake River (South Fork) near Swan Valley (Lyon), Idaho....	5,488	1903-11; 1934.
<u>Pine Creek basin</u>		
Pine Creek near Swan Valley, Idaho.....	63.2	1917-18; 1934-36.
Snake River at Dry Canyon, near Swan Valley, Idaho.....	5,616	1934-36.
<u>Burns Creek basin</u>		
Burns Creek near Chokecherry (Heise), Idaho.....	21.1	1917; 1934-36.
Snake River below Burns Creek, near Chokecherry, Idaho.....	5,659	1935.
Snake River (South Fork) near Heise, Idaho.....	5,752	1910-

* Gage heights or gage heights and discharge measurements only.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Diversions between gaging stations near Heise and Lorenzo		
Great Feeder Canal near Ririe, Idaho.....	-	1923-27.
Snake River at Lorenzo, Idaho.....	a/5,810	1924-27.
Henrys Fork basin		
Henrys Lake near Lake, Idaho.....	a/98	1923-
Henrys Fork near Lake, Idaho.....	a/98	1920-
Henrys Fork near Big Springs, Idaho.....	166	1932.
Big Springs Creek at Big Springs, Idaho.....	-	1924-25.
Henrys Fork at Coffee Pot Rapids, near Island Park, Idaho	261	1935-40.
Sheridan Creek near Island Park, Idaho.....	82.1	1935-40.
Island Park Reservoir near Island Park, Idaho.....	481	1938-
Henrys Fork near Island Park, Idaho.....	481	1933-
Buffalo River near Island Park, Idaho.....	36.7	1935-41.
Henrys Fork at DeWiners Ranch, near Island Park, Idaho...	523	1935-40.
Henrys Fork (North Fork Snake River) at Warm River, Idaho	656	1910-15; 1918-52.
Warm River at Warm River, Idaho.....	178	1912-15; 1918-32.
Robinson Creek:		
Wyoming Creek near Squirrel, Idaho.....	a/4.7	1931-32.
Robinson Creek at Warm River, Idaho.....	129	1912-15; 1918-32.
Henrys Fork (North Fork Snake River) near Ashton (Ora), Idaho.....	a/1,040	1890-91; 1902-9; 1920-
Fall River:		
Grassy Lake near Moran, Wyo.....	a/12	1939-
Diversions from Fall River above gaging station, near Squirrel, Idaho.....	-	1919-
Fall River near Squirrel (Marysville, Fremont), Idaho..	351	1902-3; 1904-9; 1918-
Conant Creek:		
Squirrel Creek near Squirrel, Idaho.....	a/17	1932.
Fall River in Canyon, Idaho.....	a/510	1890-91.
Diversions from Fall River between Squirrel and Chester gaging stations, Idaho.....	-	1919-
Fall River near Chester, Idaho.....	a/520	1920-
Diversions from Henrys Fork between Ashton and St. Anthony gaging stations, Idaho.....	-	1919-
Henrys Fork at St. Anthony, Idaho.....	a/1,770	1919-
Teton River near Victor, Idaho.....	47.6	1946-52.
Teton Creek near Driggs, Idaho.....	33.8	1946-52.
Teton River near Driggs, Idaho.....	303	1935-40.
Horseshoe Creek near Driggs, Idaho.....	11.7	1946-52.
Packsaddle Creek near Tetonia, Idaho.....	a/5.7	1946-50.
Spring Creek near Tetonia, Idaho.....	-	1946-50.
Teton River near Tetonia, Idaho.....	471	1929-32; 1934-37; 1940-
Canyon Creek near Newdale, Idaho.....	a/68	1920-25; 1938-39.
Teton River near St. Anthony (Wilford), Idaho.....	a/890	1890-93; 1903-9; 1920-
Diversions from Teton River between St. Anthony gaging station and mouth, Idaho.....	-	1919-
Diversions from Henrys Fork between St. Anthony and Rexburg gaging stations, Idaho.....	-	1919-
Henrys Fork (North Fork Snake River) near Rexburg, Idaho.	a/2,920	1909-
Snake River near Menan, Idaho.....	a/8,820	1923.
Willow Creek basin		
Willow Creek:		
Grays Lake Outlet near Herman, Idaho.....	147	1916-25.
Willow Creek near Ririe (Prospect), Idaho.....	622	1903-4; 1916-25; 1928.
Willow Creek near Iona, Idaho.....	-	1916-25.
Snake River at Idaho Falls (Eagle Rock), Idaho.....	a/9,760	1889-94.
Diversions from Snake River between Heise and Shelley gaging stations, Idaho.....	-	1919-
Snake River near Shelley, Idaho.....	a/9,790	1915-
Diversions between gaging stations near Shelley and at Firth		
Idaho (Government) Canal near Shelley, Idaho.....	-	1919-24; (1925-)c/
Idaho (Government) Canal near Firth, Idaho.....	-	1914-24.
Snake River at Firth, Idaho.....	a/9,890	1914-15.
Snake River at Porterville Bridge, near Blackfoot, Idaho...	a/9,940	1916; 1918-23.
Snake River below Blackfoot Bridge, near Blackfoot, Idaho..	a/9,950	1924-32.
Blackfoot River basin		
Blackfoot River above reservoir, near Henry, Idaho.....	a/360	1914-25.
Little Blackfoot River at Henry, Idaho.....	38.8	1914-25.

a/ Approximately.

c/ In reports of Water District 36, Idaho.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Blackfoot River basin--Continued		
Meadow Creek:		
Diversions from Grays Lake to Blackfoot Marsh		
Reservoir, Idaho.....	-	1927-43; 1945; 1947; 1949-
Meadow Creek near Henry, Idaho.....	75.2	1914-25.
Blackfoot Marsh Reservoir near Henry, Idaho.....	581	1912-25*.
Blackfoot River near Henry (Rossfork), Idaho.....	583	1908-25.
Blackfoot River near Shelley, Idaho.....	909	1909-51. d/
Blackfoot River near Presto, Idaho.....	926	1903-9.
Sand Creek near Firth, Idaho.....	-	1917-24.
Fort Hall Upper Canal near Blackfoot, Idaho.....	-	1912- d/
Fort Hall Lower Canal near Blackfoot, Idaho.....	-	1912- d/
Blackfoot River near Blackfoot, Idaho.....	1,295	1913-
Diversions from Snake River between Shelley and Blackfoot		
(Clough Ranch) gaging stations, Idaho.....	-	1919- e/
Snake River (at Clough Ranch) near Blackfoot, Idaho.....	a/11,310	1910-
Portneuf River basin		
Portneuf River above reservoir, near Chesterfield, Idaho.	a/68	1912-14.
Portneuf diversion channel near Chesterfield, Idaho....	-	1914.
Portneuf River below reservoir, near Chesterfield, Idaho.	a/92	1912-15.
Topons Creek near Chesterfield, Idaho.....	45.7	1912-14.
Pebble Creek near Pebble, Idaho.....	27.2	1911-14.
Portneuf River near Pebble, Idaho.....	261	1910-13.
Portneuf River at Topaz, Idaho.....	a/420	1913-15; 1919-
Portneuf River at McCammon, Idaho.....	445	1896.
Marsh Creek:		
Birch Creek near Downey, Idaho.....	a/3.5	1911-14; 1937-49.
Birch Creek powerplant tailrace near Malad, Idaho....	-	1928.
Marsh Creek near McCammon, Idaho.....	-	1954-
Portneuf River at Pocatello, Idaho.....	a/1,000	1897-99; 1911-
Bannock Creek basin		
Bannock Creek near Pocatello, Idaho.....	-	1955-
American Falls Reservoir at American Falls, Idaho.....	a/13,580	1926-
Snake River at Neeley, Idaho.....	a/13,600	1906-
Rock Creek basin		
Rock Creek near Rockland, Idaho.....	-	1955-
Raft River basin		
Raft River at Peterson Ranch, near Bridge, Idaho.....	412	1946-53; 1955-
Raft River near Bridge, Idaho.....	505	1909-15.
Clear Creek near Naf, Idaho.....	a/19	1910-11; 1912*; 1944-
Cassia Creek near Conant, Idaho.....	104	1909-12.
Lake Walcott near Minidoka, Idaho.....	a/15,700	1909-
Diversions from Lake Walcott		
North Side Minidoka Canal near Minidoka, Idaho.....	-	1908-
South Side Minidoka Canal near Minidoka, Idaho.....	-	1909-
Snake River near Minidoka, Idaho.....	a/15,700	1910-
Snake River at Montgomery Ferry, near Minidoka, Idaho.....	a/15,730	1895-1910.
Goose Creek basin		
Goose Creek above Trapper Creek, near Oakley, Idaho.....	a/600	1911-16; 1919-
Trapper Creek near Oakley, Idaho.....	a/32	1911-16; 1919-
Oakley Reservoir near Oakley, Idaho.....	a/670	1912-
Goose Creek near Oakley, Idaho.....	a/670	1909-11.
Birch Creek near Oakley, Idaho.....	a/37	1912-16.
Lake Milner at Milner, Idaho.....	-	1911-27; (1927-)c/
Diversions from Lake Milner		
P. A. lateral near Milner, Idaho.....	-	1916-
Milner low-lift canal near Milner, Idaho.....	-	1920-
Gooding Canal at Milner, Idaho.....	-	1930-
North Side Twin Falls Canal at Milner, Idaho.....	-	1909-
South Side Twin Falls Canal at Milner, Idaho.....	-	1909-
Snake River at Milner, Idaho.....	a/17,180	1909-

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

c/ In reports of Water District 36, Idaho.

d/ Furnished by Office of Indian Affairs since 1925.

e/ Published as Diversions from Snake River between Shelley and Porterville gaging stations, together with Diversions from Snake River between Porterville and Blackfoot gaging stations, 1919-23, and as Diversions from Snake River between Shelley and Blackfoot Bridge gaging stations, together with Diversions from Snake River between Blackfoot Bridge and Clough Ranch gaging stations, 1924-27.

<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
<u>Snake River--Continued</u>		
<u>Tributaries between gaging stations at Milner and near Kimberly</u>		
Big Cottonwood Creek near Oakley, Idaho.....	a/29	1909-15.
Dry Creek near Artesian City, Idaho.....	a/42	1912.
Devils Washbowl Spring near Kimberly, Idaho.....	-	1950-
Snake River near Kimberly, Idaho.....	-	1923-
Snake River near Twin Falls, Idaho.....	-	1911-17; 1919-47.
<u>Tributaries between gaging stations near Twin Falls and near Buhl</u>		
Blue Lakes Spring (head of Blue Lakes Outlet) near Twin Falls, Idaho.....	-	1950-
Blue Lakes Outlet near Twin Falls, Idaho.....	-	1917-20.
Rock Creek near Rock Creek, Idaho.....	a/80	1909-13; 1938-39; 1943-
McMullen Creek near Rock Creek, Idaho.....	22.7	1910; 1912.
Rock Creek near Twin Falls, Idaho.....	277	1922-47.
Cedar Draw near Filer, Idaho.....	-	1955-
Snake River near Buhl, Idaho.....	-	1946-
<u>Clear Lakes basin</u>		
Clear Lakes Outlet near Buhl, Idaho.....	-	1917-20.
<u>Deep Creek basin</u>		
Deep Creek near Buhl, Idaho.....	-	1955-
<u>Box Canyon Springs basin</u>		
Box Canyon Springs near Wendell, Idaho.....	-	1950-
<u>Salmon Falls Creek basin</u>		
Salmon Falls Creek above upper Vineyard ditch, near Contact, Nev.....	439	1914-15; 1948-
Upper Vineyard ditch near Contact, Nev.....	-	1914.
Salmon Falls Creek below upper Vineyard ditch, near Contact, Nev.....	446	1914.
Lower Vineyard ditch near Contact, Nev.....	-	1914.
Jakes Creek above Hubbard Ranch, near Contact, Nev.....	a/51	1914.
Willow Creek near Contact, Nev.....	193	1914.
Jakes Creek below Hubbard Ranch, near Contact, Nev.....	278	1914.
Bird's Nest ditch near Contact, Nev.....	-	1914.
Harrell ditch near Contact, Nev.....	-	1914.
High Line Canal near San Jacinto, Nev.....	-	1914.
Salmon Falls Creek below High Line Canal, near San Jacinto, Nev.....	915	1914.
San Jacinto ditch near San Jacinto, Nev.....	-	1914.
Island ditch near San Jacinto, Nev.....	-	1914.
West Boar's Nest ditch near San Jacinto, Nev.....	-	1914.
Trout Creek near San Jacinto, Nev.....	106	1914.
East Boar's Nest ditch near San Jacinto, Nev.....	-	1914.
Shoshone Creek near San Jacinto, Nev.....	309	1914-15.
North Side ditch near San Jacinto, Nev.....	-	1914.
Salmon Falls Creek near San Jacinto, Nev.....	a/1,450	1909-16; 1918-
Salmon Falls Creek near Twin Falls, Idaho.....	a/1,560	1909-10.
Salmon River Canal Co. reservoir near Rogerson, Idaho....	a/1,560	1922-
Salmon River Canal Co. canal near Rogerson, Idaho.....	-	1937-
Cedar Creek near Roseworth, Idaho.....	128	1909-14; 1916.
Devil Creek near Three Creek, Idaho.....	11.5	1912-14; 1916.
Salmon Falls Creek near Buhl, Idaho.....	-	1955-
<u>Mud Lake-Lost River basins</u>		
<u>Mud Lake:</u>		
Camas Creek at Eighteenmile shearing corral, near Kilgore, Idaho.....	a/210	1937-53.
Camas Creek near Kilgore (Dubois), Idaho.....	215	1921-27; 1930.
Woods No. 1 ditch near Kilgore, Idaho.....	-	1930.
Woods Woodie ditch near Kilgore, Idaho.....	-	1930.
Lone Tree Reservoir near Kilgore, Idaho.....	-	1930*.
Camas Creek below Lone Tree Reservoir, near Kilgore, Idaho.....	a/220	1930.
Camas Creek near Camas, Idaho.....	285	1921-26.
Camas Creek at Camas, Idaho.....	325	1925-
Beaver Creek near Spencer, Idaho.....	115	1938-40.
Beaver Creek at Spencer, Idaho.....	a/120	1940-52.
Beaver Creek at Dubois, Idaho.....	a/220	1921-
Beaver Creek at Camas, Idaho.....	a/510	1921-
Camas Creek near Hamer, Idaho.....	a/880	1912-13.
Mud Lake near Terretton, Idaho.....	a/1,050	1921-
Medicine Lodge Creek near Argora, Idaho.....	a/160	1938-43.

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

<u>Gaging stations</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Mud Lake-Lost River basins--Continued		
Medicine Lodge Creek at Ellis Ranch, near Argora, Idaho	165	1940-
Medicine Lodge Creek near Small, Idaho.....	a/270	1921-23; 1940-49.
Birch Creek near Reno (Kaufman), Idaho.....	a/320	1910-12; 1921-23; 1950-
Little Lost River near Clyde, Idaho.....	275	1910-13.
Little Lost River at Raymond Ranch, near Howe, Idaho...	305	1921-24.
Wet Creek at Clyde School, near Howe, Idaho.....	114	1921-22; 1923*.
Little Lost River near Howe, Idaho.....	685	1921-
Blaine County Investment Co's. canal near Howe, Idaho	-	1924-
Big Lost River at Wild Horse, near Chilly, Idaho.....	115	1944-
Big Lost River at Howell Ranch, near Chilly, Idaho.....	448	1904-14; 1920-
Big Lost River below Chilly Canal, near Chilly, Idaho..	493	1921-22.
Big Lost River at Chilly Bridge, near Chilly, Idaho....	502	1920.
Thousand Springs Creek near Chilly, Idaho.....	145	1912-14; 1920-22.
Big Lost River below Chilly Sinks, near Chilly, Idaho..	-	1921-22.
Big Lost River (back channel) below Chilly Sinks, near Chilly, Idaho.....	-	1921.
Big Lost River (east channel) above Mackay Reservoir, near Mackay, Idaho.....	-	1919-
Big Lost River (west channel) above Mackay Reservoir, near Mackay, Idaho.....	-	1919-
Warm Spring Creek (east channel) near Mackay, Idaho..	-	1919-
Warm Spring Creek (west channel) near Mackay, Idaho..	-	1919-
Surface inflow to Mackay Reservoir, near Mackay, Idaho.	-	1919-
Mackay Reservoir near Mackay, Idaho.....	788	1919-
Sharp ditch near Mackay, Idaho.....	-	1912-14; 1919-
Big Lost River below Mackay Reservoir, near Mackay, Idaho.....	813	1903-6; 1912-15; 1919-
Streeter ditch near Mackay, Idaho.....	-	1913-14.
Cedar Creek above forks, near Mackay, Idaho.....	a/4.1	1911-13.
Cedar Creek below forks, near Mackay, Idaho.....	a/6.1	1911-13.
Clark ditch near Mackay, Idaho.....	-	1920-22.
Cedar Creek below powerplant, near Mackay, Idaho.....	a/8.4	1920-22.
Alder Creek near Mackay, Idaho.....	a/37	1920-22.
Big Lost River at Leslie, Idaho.....	a/1,020	1919-22.
Antelope Creek near Darlington, Idaho.....	a/210	1913-16; 1920-22.
Pass Creek near Leslie, Idaho.....	23.6	1920-22.
Big Lost River near Moore, Idaho.....	a/1,310	1919-26.
Big Lost River near Arco, Idaho.....	a/1,410	1946-
Riley Creek basin		
Riley Creek Springs (head of Riley Creek) near Hagerman, Idaho.....	-	1950-51.
Lewis Spring:		
Brailsford ditch near Hagerman, Idaho.....	-	1951-
Riley Creek below Lewis Spring, near Hagerman, Idaho....	-	1951-
Snake River near Hagerman, Idaho.....	-	1912-17; 1918††; 1919-41.
Snake River below Lower Salmon Falls, near Hagerman, Idaho.	-	1937-
Malad River basin		
Big Wood River (head of Malad River) near Ketchum, Idaho.	137	1948-
Big Wood River at Ketchum, Idaho.....	a/240	1920-21.
Warm Springs Creek at Guyer Hot Springs, near Ketchum, Idaho.....	a/96	1940-
Warm Springs Creek near Ketchum, Idaho.....	a/97	1920-21.
Trail Creek at Ketchum, Idaho.....	a/87	1920-21.
East Fork Big Wood River at Gimlet, Idaho.....	-	1920; 1921*.
Big Wood River at Gimlet, Idaho.....	438	1904-5*; 1920-21.
Big Wood Slough at Hailey, Idaho.....	-	1915-
Big Wood River at Hailey, Idaho.....	a/640	1889; 1915-
Combined discharge of Big Wood River and Big Wood Slough at Hailey, Idaho.....	a/640	1889; 1915-
Big Wood River at Glendale Bridge, near Bellevue, Idaho..	665	1920-21.
Big Wood River near Bellevue, Idaho.....	823	1911-
Camas Creek (Malad River) near Blaine, Idaho.....	648	1912-
Magic Reservoir near Richfield, Idaho.....	a/1,600	1909-
Big Wood River below Magic Dam, near Richfield, Idaho....	a/1,600	1911-
Lincoln Canal near Richfield, Idaho.....	-	1925-48.
Lincoln Canal near Shoshone, Idaho.....	-	1925-48.
Big Wood River above North Gooding Canal, near Shoshone, Idaho.....	a/1,770	1921-39.

* Gage heights or gage heights and discharge measurements only.

†† Unpublished.

a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Malad River basin--Continued		
Big Wood River below North Gooding Canal, near Shoshone, Idaho.....	a/1,780	1911-39.
Big Wood River near Shoshone, Idaho.....	a/1,860	1905-6; 1908-13.
Big Wood River above Thorn Creek, near Gooding, Idaho....	a/1,940	1926-27.
Thorn Creek:		
Thorn Creek Spillway near Gooding, Idaho.....	-	1928-48.
Big Wood (Malade) River at Gooding (Toponis), Idaho.....	a/2,190	1896-99; 1921-48.
Dry Creek near Blanche, Idaho.....	a/34	1911-14.
Little Wood River:		
Muldoon Creek near Muldoon, Idaho.....	124	1925.
Little Wood River at Campbell Ranch, near Carey, Idaho.	267	1920-26; 1941-42; 1944-
Little Wood River near Carey, Idaho.....	312	1904-5*; 1926-
Fish Creek above dam, near Carey, Idaho.....	a/32	1920-39.
West Fork Fish Creek near Carey, Idaho.....	13.8	1920-22; 1924-29.
Fish Creek near Carey, Idaho.....	62.9	1919-20; 1923-39.
Silver Creek near Picabo, Idaho.....	a/88	1920-
Little Wood River near Richfield, Idaho.....	a/570	1911-
Little Wood River at Shoshone, Idaho.....	a/620	1922-
Little Wood River at Toponis (Gooding), Idaho.....	a/680	1896-97; 1899.
Malad River (Big Wood) near Gooding, Idaho.....	a/2,990	1916-
King Hill Canal near Hagerman, Idaho.....	-	1930-
Malad (Malade) River near Bliss, Idaho.....	a/3,000	1899.
Clover Creek basin		
Clover Creek near Bliss, Idaho.....	a/150	1938-43.
Snake River at King Hill, Idaho.....	a/35,800	1909-
King Hill Creek basin		
King Hill Creek near King Hill, Idaho.....	83.6	1913; 1938-41.
Little Canyon Creek basin		
Little Canyon Creek near (at) Glenns Ferry, Idaho.....	52.4	1909-13; 1938-43.
Cold Springs Creek basin		
Cold Springs Creek near Hammett, Idaho.....	a/65	1909-13.
Bennett Creek basin		
Bennett Creek near Bennett, Idaho.....	21.3	1938-45.
Bennett Creek near Hammett (Medbury), Idaho.....	68.6	1909-13.
Rattlesnake Creek basin		
Rattlesnake Creek near Mountain Home, Idaho.....	a/27	1917.
Canyon Creek basin		
Long Tom Creek (head of Canyon Creek):		
Willowdale Creek near Bennett, Idaho.....	5.04	1917.
Long Tom Reservoir near Bennett, Idaho.....	-	1924-25*.
Long Tom Creek below Long Tom Reservoir, near Bennett, Idaho.....	18.6	1917; 1924-26.
Syrup Creek near Mountain Home, Idaho.....	32.6	1917.
Canyon Creek near Mountain Home, Idaho.....	90.9	1917.
Mountain Home feeder canal near Mountain Home, Idaho...	-	1924-29; 1931-
Mountain Home cooperative canal near Mountain Home, Idaho.....	-	1924-29; 1931-47.
Bruneau River basin		
Bruneau River near Rowland, Nev.....	-	1913-18.
Bruneau River near Tindall, Idaho.....	a/440	1910-12.
East Fork Jarbidge River near Three Creek, Idaho.....	a/89	1928-33; 1953-
Sheep Creek near Tindall, Idaho.....	a/180	1910-13.
Marys Creek near Owyhee, Nev.....	a/27	1914-15.
Marys Creek at Tindall, Idaho.....	a/110	1910-13.
Louse Creek near Wickahoney, Idaho.....	a/76	1911.
East Fork Bruneau River near Three Creek, Idaho.....	a/62	1912-14; 1916.
Three Creek near Three Creek, Idaho.....	a/45	1912-14; 1916.
Cherry Creek near Three Creek, Idaho.....	a/22	1912-14; 1916.
Deadwood Creek near Three Creek, Idaho.....	a/22	1912-14; 1916.
East Fork Bruneau River below Three Creek, near Three Creek, Idaho.....	-	1953-
East Fork Bruneau River near Hot Spring, Idaho.....	a/620	1910-15; 1948-
Bruneau River near Winter Camp Ranch, Idaho.....	a/1,890	1946-51.
Bruneau River near Hot Spring, Idaho.....	a/2,010	1909-15; 1943-
Buckaroo ditch at Hot Spring, Idaho.....	-	1912-14.
Wickahoney Creek (head of Little Valley Creek) near Bruneau, Idaho.....	a/74	1938-49.
Jacks Creek near Bruneau, Idaho.....	a/290	1938-49.
Grandview Canal near Grand View, Idaho.....	-	1912-15.

* Gage heights or gage heights and discharge measurements only.
a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Bruneau River basin--Continued		
Bruneau River near Grand View, Idaho.....	a/2,650	1895-99; 1900-1903††; 1909-16; 1944-49.
C. J. Strike Reservoir near Grandview, Idaho.....	-	1952-
Castle Creek basin		
Castle Creek near Castle Creek, Idaho.....	a/150	1910-11.
Snake River near Murphy, Idaho.....	a/41,900	1912-
Sucker Creek basin		
Sucker Creek near Homedale, Idaho.....	417	1919-23.
Sucker Creek at mouth, near Homedale, Idaho.....	494	1903-10.
Owyhee River basin		
Wild Horse Reservoir near Gold Creek, Nev.....	209	1938-
Owyhee River near Gold Creek, Nev.....	209	1916-25; 1936-
Owyhee River at Mountain City, Nev.....	350	1913; 1926-48.
Owyhee River near Owyhee, Nev.....	380	1914-26.
Owyhee River above China diversion dam, near Owyhee, Nev.	458	1939-
South Fork Owyhee River near Tuscarora, Nev.....	-	1913.
Jack Creek near Tuscarora, Nev.....	a/31	1913-25.
South Fork Owyhee River near Deep Creek, Nev.....	-	1921-24.
Jordan Creek above Lone Tree Creek, near Jordan Valley, Oreg.....	a/450	1945-53; 1955-
Jordan Valley feed canal near Jordan Valley, Oreg....	-	1920; 1923; (1925-30; 1932-40; 1941-43††)f/.
Jordan Creek near Jordan Valley, Oreg.....	a/660	1911-18; 1920; (1930; 1932-41; 1941-43††)f/.
Cow Creek at Narrows, near Jordan Valley, Oreg.....	a/250	1914; (1920)f/.
Cow Creek at Danner, Oreg.....	a/330	1914; 1920; (1930)f/.
Jordan Creek at Danner, Oreg.....	a/1,100	1920; 1923; (1925; 1930)f/.
Owyhee River near Rome, Oreg.....	b/8,000	1949-
Crooked Creek near Rome, Oreg.....	b/g/1,700	1949-52.
Owyhee River above Owyhee Reservoir, Oreg.....	a/g/10,400	(1929-30)f/; 1930-51.
Owyhee Reservoir at Owyhee Dam, near Nyssa, Oreg.....	a/g/11,160	1932-
Owyhee River below Owyhee Dam, Oreg.....	a/g/11,160	1929-
Owyhee Canal near Owyhee, Oreg.....	-	1905; 1911-16; 1920-29; (1930-41; 1941-††)f/.
Owyhee River near Owyhee, Oreg.....	a/g/11,300	1890-93; 1895-96; 1903-16; 1920-29.
Boise River basin		
Boise River:		
Middle Fork Boise River near Twin Springs, Idaho.....	382	1946-50.
Boise River near Twin Springs, Idaho.....	a/830	1911-
Cottonwood Creek at Arrowrock Reservoir (near Arrowrock), Idaho.....	21.4	1914-18; 1939-41.
South Fork Boise River near Featherville, Idaho.....	635	1945-
Lime Creek near Bennett, Idaho.....	131	1945-
Fall Creek near Anderson Ranch Dam, Idaho.....	55.3	1945-
Little Camas Creek at Little Camas Store, Idaho.....	-	1896*.
Little Camas Reservoir near Bennett, Idaho.....	31.8	1924-39*.
Little Camas Creek below reservoir, near Bennett, Idaho.....	31.8	1917.
Little Camas Canal at heading, near Bennett, Idaho.	-	1917; 1924-
Little Camas Canal below Tunnel No. 9 (above Tunnel No. 9), near Bennett, Idaho.....	-	1917; 1924-26.
Anderson Ranch Reservoir at Anderson Ranch Dam, Idaho..	a/980	1945-
South Fork Boise River at Anderson Ranch Dam, Idaho....	982	1943-
South Fork Boise River near Lenox (Prairie), Idaho.....	a/1,090	1911-47.
Smith Creek near Lenox, Idaho.....	50.3	1916-17.
Long Gulch Creek near Lenox, Idaho.....	10.5	1916.
Rattlesnake Creek near Lenox, Idaho.....	46.0	1915-17.
Willow Creek near Lenox, Idaho.....	55.1	1916-17.
Grouse Creek near Arrowrock, Idaho.....	a/8.0	1939-41.
Arrowrock Reservoir at Arrowrock, Idaho.....	a/2,210	1917-
Boise River at Dowling Ranch, near Arrowrock, Idaho.....	a/2,220	1911-55.

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†† Unpublished.

a/ Approximately.

b/ About.

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g/ Some of which is noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Boise River basin--Continued		
Moore Creek:		
Gold Hill placer diversion from Moore Creek, near Idaho City, Idaho.....	-	1939-41.
Moore Creek above Granite Creek, near Idaho City, Idaho.....	37.0	1939-41.
Granite Creek near Idaho City, Idaho.....	a/4.8	1939-41.
Bannock Creek near Idaho City, Idaho.....	a/4.5	1939-41; 1950-
Pine Creek above Barry placer diversion, near Idaho City, Idaho.....	a/6.1	1940-41.
Pine Creek near Idaho City, Idaho.....	a/6.5	1939-40.
Elk Creek above Gold Hill placer diversion, near Idaho City, Idaho.....	13.1	1940-41.
Elk Creek near Idaho City, Idaho.....	22.3	1939-40.
Moore Creek above Thorn Creek, near Idaho City, Idaho..	119	1939-41.
Grimes Creek near Centerville, Idaho.....	-	1909-10*.
Moore Creek above Robie Creek, near Arrowrock, Idaho...	599	1950-
Robie Creek near Arrowrock, Idaho.....	15.8	1950-
Moore Creek near Arrowrock, Idaho.....	426	1915-55.
Lucky Peak Reservoir near Boise, Idaho.....	a/2,680	1954-
Boise River near Boise (near Highland or below Moore Creek, near Arrowrock), Idaho.....	a/2,680	1894-1916; 1955-
Boise River at Barber, Idaho.....	a/2,690	1935-36.
New York Canal near Barber, Idaho.....	-	1939-48.
Lake Lowell (Deer Flat Reservoir) near Caldwell, Idaho.	-	1917-
Boise River below Ridenbaugh Canal, at Barber, Idaho.....	-	1938-39*.
Divisions from Boise River between near Boise and at Boise gaging stations, Idaho.....	-	1919-
Cottonwood Gulch at Boise, Idaho.....	16.0	1939-41.
Boise River at Boise, Idaho.....	a/2,760	1938-39*; 1940-
Boise River at Strawberry Glen Bridge, near Boise, Idaho.	a/2,800	1938-40.
Dry Creek:		
Spring Valley Creek (Spring Creek) near Boise, Idaho.	a/20	1911-12.
Spring Valley Creek near Eagle, Idaho.....	20.9	1954-
Dry Creek near Eagle, Idaho.....	59.4	1954-
Dry Creek at Eagle, Idaho.....	66.4	1954-
Boise River (north channel) near Eagle, Idaho.....	-	1935-38.
Boise River (north channel) at Linder bridge, near Eagle, Idaho.....	-	-
Boise River (south channel) near Eagle, Idaho.....	-	1938-39*.
Boise River at Star, Idaho.....	-	1935-38.
Boise River at Middleton, Idaho.....	-	1938-39*.
Boise River near (at) Caldwell, Idaho.....	a/3,220	1895; 1938-39*.
Drains crossing Phyllis Canal to Boise River, Idaho....	-	1935-38.
Divisions from Boise River between Boise and Notus gaging stations, Idaho.....	-	1919-
Boise River at Notus, Idaho.....	a/3,820	1920-
Boise River near Parma, Idaho.....	-	1938-39*.
Malheur River basin		
Malheur River at Jones' ranch, near Drewsey, Oreg.....	a/530	1914.
Malheur River near Drewsey, Oreg.....	a/910	1920-21; 1923; 1926-
Warm Springs Reservoir near Riverside, Oreg.....	a/1,100	1920-†
Malheur River below Warm Springs Reservoir (above South Fork, at Riverside, and at Warm Springs Reservoir site), near Riverside, Oreg.....	a/1,100	1906-8*; 1909-10; 1914-17; 1919-
South Fork Malheur River at Riverside, Oreg.....	a/630	1910-15; 1919-20; (1927-29; 1938††)f/.
Malheur River at Riverside, Oreg.....	a/1,750	1909-15.
North Fork Malheur River above Agency Valley Reservoir (at Scott's ranch), near Beulah, Oreg.....	355	1914; 1936-
Agency Valley Reservoir at Beulah, Oreg.....	a/440	1935-†
North Fork Malheur River at (near) Beulah, Oreg.....	a/440	1926-
North Fork Malheur River at Foley's ranch, near Beulah, Oreg.....	a/470	1909-12; 1913-14.
North Fork Malheur River at Juntura, Oreg.....	a/530	1919-20; (1921-22; 1926-32; 1935-40)f/.

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<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Malheur River basin--Continued		
Malheur River near (at) Namorf, Oreg.....	a/2,590	1913-23; 1926-29; (1930††; 1931)f/.
Malheur River near Westfall (near Harper's ranch, above Vale), Oreg.....	a/2,970	1903-5.
Malheur River at Little Valley, near Hope, Oreg.....	a/3,010	1949-
Malheur River near Hope, Oreg.....	a/3,030	1919-49.
Vines Canal (ditch) near Little Valley (above Vale), Oreg.....	-	1904-5†; 1914; (1919; 1937-41)f/.
Malheur River near Little Valley, Oreg.....	a/3,030	1914.
Malheur Farmers Canal above Vale, Oreg.....	-	1904-5†; (1914; 1919; 1938-41)f/.
McLaughlin ditch above Vale, Oreg.....	-	1904-5†; (1914; 1919)f/.
"J. H." ditch above Vale, Oreg.....	-	1904-5†; (1914; 1919; 1938-41)f/.
Malheur River at McLaughlin Bridge, near Vale, Oreg.....	a/3,060	1904-6.
Gellerman & Frohman ditch above Vale, Oreg.....	-	1904-5†; (1914; 1919; 1937-41)f/.
Sand Hollow ditch above Vale, Oreg.....	-	1904-5†; (1914; 1919)f/.
Hope Mill ditch at Vale, Oreg.....	-	1904†; (1914; 1919)f/.
Bully Creek near (at) Westfall, Oreg.....	a/160	1911*; 1912-13; 1923.
Cottonwood Creek near Westfall, Oreg.....	a/82	1922-23.
Bully Creek at Warm Springs, near (above) Vale, Oreg....	a/530	1903-7; 1910-17; 1922-23.
Bully Creek near Vale, Oreg.....	602	(1933-45)f/; 1945-
Bully Creek at Vale, Oreg.....	a/620	1904; 1905*.
Malheur River at Vale, Oreg.....	a/3,880	1890-91; 1895-97; 1903-7; 1908-14; 1919.
Nevada ditch (Canal) below (near) Vale, Oreg.....	-	1904-5†; (1914; 1919; 1938-41)f/.
Malheur River below Nevada Dam, near (at) Vale, Oreg....	a/3,880	1926-34; (1936-41; 1941-42††; 1944-††)f/
Willow Creek near Malheur, Oreg.....	a/250	1912-15; 1921-28; (1929)f/.
Willow Creek Reservoir near Malheur, Oreg.....	a/290	1921††; 1922-28†.
Willow Creek below reservoir (at reservoir site), near Malheur, Oreg.....	a/290	1904-6; 1911; 1920-28; (1929)f/.
Cow Creek near Brogan, Oreg.....	a/g/75	1912-14†.
Willow Creek near Brogan, Oreg.....	a/420	1912-14.
Willow Creek at Cole's ranch, near Brogan (Dell), Oreg.	455	1904-6.
Pole Creek near Brogan, Oreg.....	a/14	1912.
Pole Creek below Black Creek feed canal, near Brogan, Oreg.....	a/14	1913.
Malheur River at Halliday Bridge, near Ontario, Oreg....	a/4,620	1904-5.
Malheur River near Ontario, Oreg.....	a/4,680	1903-4.
Payette River basin		
South Fork Payette River:		
Clear Creek at Lowman, Idaho.....	59.6	1941-49.
South Fork Payette River at Lowman, Idaho.....	456	1941-
Deadwood River near Bernard, Idaho.....	10.4	1929-32.
Deadwood Reservoir near Lowman, Idaho.....	108	1935-*
Deadwood River below Deadwood Reservoir (at Beaver Creek ranger station), near Lowman, Idaho.....	108	1926-
Deadwood River near Lowman, Idaho.....	a/230	1921-53.
South Fork Payette River near Garden Valley, Idaho.....	779	1921-
South Fork Payette River near Banks, Idaho.....	a/1,200	1921-
North Fork Payette River:		
Payette Lake at McCall (Lardo), Idaho.....	144	1921-*
North Fork Payette River at McCall (Lardo), Idaho.....	144	1908-17; 1919-
Fish hatchery diversion at McCall, Idaho.....	-	1942-53.
Lake Fork Payette River above Jumbo Creek, near McCall, Idaho.....	48.9	1945-
Lake Fork Payette River above reservoir, near McCall, Idaho.....	54.6	1926-45.

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g/ Some of which is noncontributing.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Payette River basin--Continued		
North Fork Payette River--Continued		
Lake Fork Reservoir near McCall, Idaho.....	a/64	1926-
Lake Fork Payette River near McCall, Idaho.....	a/64	1909-14.
Lake Irrigation District Canal near McCall, Idaho..	-	1926-
Lake Fork Payette River below Lake Irrigation District Canal, near McCall, Idaho.....	a/64	1940-
Cruzen Canal at Lake Fork, Idaho.....	-	1938-48.
Gold Fork Payette River near Roseberry, Idaho.....	145	1920-21.
North Fork Payette River at Van Wyck, Idaho.....	608	1912-16; 1920-24.
Cascade Reservoir at Cascade, Idaho.....	a/620	1948-
North Fork Payette River at Cascade, Idaho.....	626	1941-
North Fork Payette River near Smiths Ferry, Idaho.....	893	1941-47.
North Fork Payette River near Banks, Idaho.....	933	1947-
Payette River at Banks, Idaho.....	a/2,120	1922-29.
Porter Creek near Gardena, Idaho.....	21.2	1938-45.
Payette River near Horseshoe Bend, Idaho.....	a/2,230	1906-16; 1919-
Shafer Creek near Horseshoe Bend, Idaho.....	a/28	1911-12.
Harris Creek near Horseshoe Bend, Idaho.....	a/17	1911-12.
Squaw Creek near Gross, Idaho.....	a/21	1925-27.
Payette River near Emmett, Idaho.....	a/2,680	1925-
Payette River near Letha, Idaho.....	a/2,760	1952-53.
Payette River near New Plymouth, Idaho.....	a/2,850	1952-53.
Payette River near (at) Payette, Idaho.....	a/3,240	1895-97; 1935-
Weiser River basin		
Weiser River at Tamarack, Idaho.....	36.5	1936-
Weiser River near Starkey, Idaho.....	66.6	1937-39.
East Fork Weiser River near Council, Idaho.....	a/2.0	1932-43.
East Fork Weiser River near Starkey, Idaho.....	31.6	1937-39.
Weiser River at Starkey, Idaho.....	106	1920*; 1939-49.
West Fork Weiser River:		
Lost Valley Reservoir near Tamarack, Idaho.....	29.4	1924*; 1926-*
Lost Creek near Tamarack, Idaho.....	29.4	1910-14; 1920-21; 1924-
West Fork Weiser River near Fruitvale, Idaho.....	a/78	1910-13; 1919-25; 1937-49.
Hornet Creek near Council, Idaho.....	107	1937-43.
Weiser River near Council, Idaho.....	390	1937-53.
Middle Fork Weiser River:		
Mesa Orchards Canal near Mesa, Idaho.....	-	1924; 1928-
Middle Fork Weiser River near Mesa (at Middle Fork), Idaho.....	66.5	1910-13; 1919-21; 1937-49.
Johnson Creek below Johnson Park, near Council, Idaho..	a/5	1941-49.
Bacon Creek near Mesa, Idaho.....	.71	1944-49.
Weiser River near Cambridge, Idaho.....	605	1939-
Rush Creek:		
Rush Creek powerplant tailrace near Cambridge, Idaho.	-	1929-30.
Rush Creek at Cambridge, Idaho.....	a/32	1938-43.
Pine Creek near Cambridge, Idaho.....	a/54	1938-
Little Weiser River at Ruby Ranch, near Indian Valley, Idaho.....	80.3	1923.
Little Weiser River near Indian Valley, Idaho.....	81.9	1920-21; 1923-27; 1938-
Little Weiser River near Cambridge, Idaho.....	187	1920-26.
Sage Creek near Midvale, Idaho.....	5.56	1913.
Sommercamp Creek near Midvale, Idaho.....	a/2.5	1913.
Miller Creek near Midvale, Idaho.....	.96	1913.
Weiser River above Crane Creek, near Weiser, Idaho.....	a/1,160	1920-52.
Crane Creek Reservoir near Midvale, Idaho.....	242	1923-*
Crane Creek near Midvale, Idaho.....	242	1910-16; 1924-
Crane Creek Irrigation District Canal near Weiser, Idaho.....	-	1920-26.
Crane Creek at mouth, near Weiser, Idaho.....	288	1920-
Weiser River near (at) Weiser, Idaho.....	a/1,460	1890-91; 1894-1904; 1910-14; 1952-
Weiser Irrigation District Canal near Weiser, Idaho....	-	1920-
Mann Creek near Weiser, Idaho.....	a/56	1911-13; 1920; 1937-
Monroe Creek (upper station) near Weiser, Idaho.....	a/7.2	1911-12.
Monroe Creek (lower station) near Weiser, Idaho.....	29.1	1911-13.
Monroe Creek above Sheep Creek, near Weiser, Idaho.....	a/32	1945-49.
Snake River at Weiser, Idaho.....	a/69,200	1910-

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a/ Approximately.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Burnt River basin		
North Fork Burnt River at Audrey, Oreg.....	139	1915-16.
Middle Fork Burnt River near Audrey, Oreg.....	9.54	1915-16.
South Fork Burnt River near Unity, Oreg.....	30.9	1915-16.
South Fork Burnt River at Hardman Ranch, near Unity, Oreg.....	44.4	1916-20; (1938-40)f/.
Fleetwood ditch near Unity, Oreg.....	-	1918-20.
Sawmill Creek near Unity, Oreg.....	-	1915*.
Burnt River:		
Unity Reservoir near Unity, Oreg.....	309	1938-†
Burnt River near Hereford, Oreg.....	309	1915-16; 1928-
Camp Creek near Hereford, Oreg.....	-	1915*.
Burnt River at Bridgeport, Oreg.....	a/600	1915-16; (1931-35)f/.
Burnt River near Durkee, Oreg.....	a/700	(1931)f/; 1931-38.
Burnt River at Huntington, Oreg.....	1,093	1928-32.
Powder River basin		
Powder River near Baker (near Baker City and at Salisbury), Oreg.....	219	1903-14; (1926-28)f/;
		1928-
Old Settlers Slough at Baker, Oreg.....	-	1913-14.
Baldock Slough at Baker, Oreg.....	-	1913-14.
Powder River at Baker, Oreg.....	351	1913-14.
Pine Creek near Baker, Oreg.....	a/8.8	1913-14; (1928-29;
		1930††)f/.
Goodrich Creek near Baker, Oreg.....	a/3.1	1913.
Mill Creek:		
Lee-Polly ditch near Baker, Oreg.....	-	1914.
Mill Creek near Baker, Oreg.....	a/3.9	1913-14; (1928-29;
		1930††)f/.
Marble Creek near Baker, Oreg.....	a/3.9	1913-14; (1928-29;
		1930††)f/.
Salmon Creek near Baker, Oreg.....	a/4.4	1913-14; (1928-29)f/.
Willow Creek near Haines, Oreg.....	a/2.4	1913.
Powder River at Haines, Oreg.....	539	1914††.
Powder River near Haines, Oreg.....	572	1946-53.
North Powder River near North Powder, Oreg.....	47.7	1912.
Anthony Fork (Creek) near North Powder, Oreg.....	a/37	1912.
North Powder River at North Powder, Oreg.....	129	1912-14.
Wolf Creek at Bauer's ranch, near North Powder, Oreg...	a/30	1913-14.
Wolf Creek near North Powder, Oreg.....	32.9	1946-53.
Powder River near North Powder, Oreg.....	a/860	1913-16; 1920-25.
Thief Valley Reservoir near North Powder, Oreg.....	-	1932.
Powder River below Thief Valley Reservoir, near North Powder, Oreg.....	a/910	1909-12; 1932.
Big Creek near Medical Springs, Oreg.....	35.5	1913-14.
Goose Creek near Keating, Oreg.....	41.9	1913-14.
Eagle Creek above West Fork, near Baker, Oreg.....	a/18	1911*.
Eagle Creek near Baker (Baker City), Oreg.....	a/42	1909-10; 1910*.
Eagle Creek near Newbridge, Oreg.....	a/170	1910-11; 1914.
West Fork Eagle Creek near Baker, Oreg.....	a/15	1911*.
Daly Creek near Richland, Oreg.....	40.5	1913.
Powder River near Robinette, Oreg.....	a/1,660	1928-
Snake River at Oxbow, Oreg.....	a/72,800	1923-
Snake River near Joseph, Idaho.....	-	1955-
Imnaha River basin		
Imnaha River above Gumboot Creek, Oreg.....	a/98	1944-53.
Big Sheep Creek near Joseph, Oreg.....	12.5	1920.
Imnaha River at Imnaha, Oreg.....	a/640	1928-
Salmon River basin		
Salmon River near Obsidian, Idaho.....	94.7	1940-53.
Alturas Lake Creek near Obsidian, Idaho.....	35.7	1940-53.
Salmon River near Pierson, Idaho.....	235	1910-11*; 1911-13.
Lake Creek near Stanley, Idaho.....	a/44	1910-13.
Salmon River at Stanley, Idaho.....	355	1921-25.
Valley Creek at Stanley, Idaho.....	176	1910-13; 1921-
Salmon River below Valley Creek, at Stanley, Idaho.....	535	1925-
Yankee Fork Salmon River near Clayton, Idaho.....	195	1921-49.
Salmon River below Yankee Fork, near Clayton, Idaho.....	641	1921-

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<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Salmon River basin--Continued		
Warm Springs Creek at Robinson Bar, near Clayton, Idaho	a/81	1921-23.
East Fork Salmon River:		
Big Boulder Creek near Clayton, Idaho.....	a/27	1926-30.
East Fork Salmon River near Clayton, Idaho.....	497	1928-39.
Salmon River near Challis, Idaho.....	a/1,800	1928-
Challis Creek near Challis, Idaho.....	a/85	1943-
Pahsimeroi River near Goldburg, Idaho.....	a/65	1910-13.
Pahsimeroi River below the sinks, near Goldburg, Idaho.	176	1913.
Goldburg Creek near Goldburg, Idaho.....	a/54	1910.
Goldburg Creek at mouth, near Goldburg, Idaho.....	a/69	1913.
Big Creek near Patterson, Idaho.....	a/70	1910-13.
Pahsimeroi River near May, Idaho.....	845	1929-
Salmon River at Salmon, Idaho.....	a/3,760	1912-16; 1919-
Lemhi River:		
Texas Creek near Leadore, Idaho.....	a/64	1938-39; 1955-
Timber Creek near Leadore, Idaho.....	a/57	1912; 1938-39.
West Fork Timber Creek near Leadore, Idaho.....	16.5	1912.
Eightmile Creek near Leadore, Idaho.....	a/20	1912.
Lemhi River near Lemhi, Idaho.....	a/890	1938-39; 1955-
Lemhi River at Salmon, Idaho.....	a/1,270	1928-43.
North Fork Salmon River (near) at North Fork, Idaho....	214	1912*; 1929-39.
Panther Creek near Shoup, Idaho.....	529	1944-
Salmon River near Shoup, Idaho.....	a/6,270	1944-
Middle Fork Salmon River:		
Marsh Creek near Cape Horn, Idaho.....	a/73	1922; 1924.
Beaver Creek at Cape Horn, Idaho.....	a/54	1922; 1924.
Middle Fork Salmon River near Cape Horn, Idaho.....	138	1928-
Bear Valley Creek near Cape Horn, Idaho.....	a/180	1921-
Middle Fork Salmon River near Meyers Cove, Idaho.....	a/2,020	1931-39.
Big Creek near Big Creek, Idaho.....	a/470	1944-
South Fork Salmon River near Knox, Idaho.....	a/92	1928-
East Fork of South Fork Salmon River at Stibnite, Idaho.....	19.5	1928-43.
East Fork of South Fork Salmon River near Stibnite, Idaho.....	42.5	1928-41.
East Fork of South Fork Salmon River near Yellow Pine, Idaho.....	104	1928-43.
Johnson Creek near Landmark ranger station, Idaho..	54.7	1942-49.
Johnson Creek at Yellow Pine, Idaho.....	213	1928-
Secesh River near Burgdorf, Idaho.....	104	1943-52.
South Fork Salmon River near Warren, Idaho.....	a/1,160	1931-43.
Warren Creek near Warren, Idaho.....	a/37	1943-49.
Salmon River near French Creek, Idaho.....	a/12,270	1944-
Little Salmon River:		
Mud Creek near Tamarack, Idaho.....	15.8	1937-38; 1938-43*; 1945-
Boulder Creek near Tamarack, Idaho.....	a/6.5	1938-45.
Little Salmon River at Riggins, Idaho.....	576	1951-55.
Salmon River at Whitebird, Idaho.....	a/13,550	1910-17; 1919-
Deer Creek near Winchester, Idaho.....	14.5	1951-
Grande Ronde River basin		
Grande Ronde River:		
Meadow Creek near Starkey, Oreg.....	a/140	1931-35.
Grande Ronde River near Hilgard, Oreg.....	489	(1938-41; 1941-45††)f/; 1945-
Grande Ronde River at La Grande (Hilgard), Oreg.....	a/680	1903-15; 1918-23; 1925-
State ditch near Alicel, Oreg.....	-	1918.
Catherine Creek near Union, Oreg.....	105	1906-7*; 1911-12; 1915; 1918-19; 1925-
Little Creek at Southerland Ranch, near Union, Oreg..	23.8	1915*.
Little Creek near Union, Oreg.....	30.4	1918.
Ladd Creek near Hot Lake, Oreg.....	a/40	1918.
Mill Creek near Cove, Oreg.....	11.6	1918; 1920-21.
Willow Creek:		
Mill Creek near Summerville, Oreg.....	-	1914-15*.
Indian Creek near Imbler, Oreg.....	22	(1938-41; 1941-45††)f/; 1945-50.
Grande Ronde River near Elgin, Oreg.....	a/1,250	1955-

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<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Grande Ronde River basin--Continued		
Grande Ronde River at Elgin, Oreg.....	a/1,400	1903-12; 1918-19.
Wallowa River:		
East Fork Wallowa River:		
Wallowa Falls powerplant tailrace near Joseph, Oreg.....	-	1924-52.
East Fork Wallowa River near Joseph, Oreg.....	a/10	1924-
Wallowa River above Wallowa Lake, near Joseph, Oreg....	a/43	1924-33; (1936-38; 1940-41)f/.
Wallowa Lake near Joseph, Oreg.....	a/52	1903-6*; 1912-14***; 1915***; (1925-41; 1941-50††)f/; 1950-†
Joseph powerplant tailrace at Joseph, Oreg.....	-	(1929-41; 1941-50††)f/; 1950-52; 1952-†
Silver Lake Canal (ditch) at (near) Joseph, Oreg.....	-	1905*; 1915; (1926-41; 1941-50††)f/; 1950-52; 1952-†
Wallowa River at (near) Joseph, Oreg.....	a/52	1903-14; 1915; (1926-41; 1941-50††)f/; 1950-
Farmers Canal (ditch) at Joseph (Farmers and Citizens ditch near Joseph), Oreg.....	-	1905*; 1915; (1927-41; 1941-††)f/
Granger Canal (ditch):		
Big Bend Canal (ditch) at Joseph, Oreg.....	-	1905*; 1915; (1927-41; 1941-††)f/
Granger Canal (ditch) at Joseph, Oreg.....	-	1905*; 1915; (1927-41; 1941-††)f/
Hurricane Creek near Joseph, Oreg.....	a/31	1915; 1924-
Lostine River near Lostine, Oreg.....	a/70	1912-14; 1915; 1925-
Bear Creek near Wallowa, Oreg.....	a/68	1915; 1924-
Wallowa River near Wallowa, Oreg.....	a/520	1903-7.
Minam River at Minam, Oreg.....	a/240	1912-14.
Wallowa River at Minam (near Elgin), Oreg.....	a/880	1903-7; 1908-14.
Grande Ronde River at Rondowa, Oreg.....	2,555	1926-
Grande Ronde River at Troy, Oreg.....	3,275	1944-
Joseph Creek at Chico, Oreg.....	a/280	1931-33.
Grande Ronde River at Zindel, Wash.....	a/3,950	1904-12.
Asotin Creek basin		
Asotin Creek (at Shelman's Ranch), near Asotin, Wash.....	156	1904-6; 1910-11; 1928-
Asotin Creek 1½ miles above Asotin, Wash.....	316	1904-5*.
Snake River at Lewiston, Idaho.....	-	1910*.
Clearwater River basin		
Selway River (head of Clearwater River) above Meadow Creek, near Lowell, Idaho.....	a/1,550	1944-49.
Selway River near Lowell, Idaho.....	a/1,910	1911; 1912*; 1929-
Lochsa River near Lowell, Idaho.....	a/1,180	1910-12; 1929-
Middle Fork Clearwater River (continuation of Selway River):		
South Fork Clearwater River near Elk City, Idaho.....	281	1944-
South Fork Clearwater River near Grangeville, Idaho....	865	1910-16; 1923-
South Fork Clearwater River at Kooskia, Idaho.....	a/1,150	1910-12.
Clearwater River at Kamiah, Idaho.....	a/4,850	1910-
Lolo Creek near Greer, Idaho.....	243	1911-12.
Clearwater River at Orofino, Idaho.....	a/5,580	1930-38.
North Fork Clearwater River at Bungalow ranger station, Idaho.....	996	1944-
North Fork Clearwater River near Ahsahka, Idaho.....	a/2,440	1926-
Potlatch Creek at Kendrick, Idaho.....	a/460	1945-
Lapwai Creek:		
Mission Creek near Winchester, Idaho.....	a/16	1940-45.
Clearwater River at Spalding, Idaho.....	a/9,570	1926-
Clearwater River near Lewiston, Idaho.....	a/9,640	1910-13; 1924-27.
Snake River near (at Riparia) Clarkston, Wash.....	a/103,200	(1900-1916*; 1935-48*)h/; (1909-15; 1922-28)1/; 1915-22; 1928-
Tucannon River basin		
Tucannon River near Pomeroy, Wash.....	a/160	1913-15; 1924-30.
Tucannon River near Starbuck, Wash.....	409	1914-17; 1928-31.

* Gage heights or gage heights and discharge measurements only.

† Monthly figures of discharge or contents only.

†† Unpublished.

*** Gage heights and figures of monthly change in contents only.

a/ Approximately.

f/ In reports of State engineer of Oregon; monthly figures of discharge or contents only.

h/ In reports of U. S. Weather Bureau.

1/ In water-supply bulletins of State of Washington; monthly figures of discharge only.

<u>Gaging station</u>	<u>Drainage area (sq mi)</u>	<u>Period of record</u>
Snake River--Continued		
Palouse River basin		
Palouse River near Potlatch, Idaho.....	312	1914-19.
Palouse River at Elberton, Wash.....	406	1904; 1905*.
Palouse River near Colfax, Wash.....	491	1955-
South Fork Palouse River above Paradise Creek, near Pullman, Wash.....	84.4	1934-40.
Paradise Creek near Pullman, Wash.....	34.5	1934-38.
Dry Fork of South Fork Palouse River at Pullman, Wash.....	7.28	1934-38.
South Fork Palouse River at Pullman, Wash.....	132	1934-42.
Missouri Flat Creek at Pullman, Wash.....	27.1	1934-40.
Fourmile Creek at Shawnee, Wash.....	71.6	1934-40.
Rock Creek near Ewan (St. John), Wash.....	b/520	1903-5; 1914-17.
Palouse River near Winona, Wash.....	b/2,100	1914-17.
Union Flat Creek near Colfax, Wash.....	189	1953-
Palouse River at (near) Hooper, Wash.....	a/2,540	1897-1902; 1903*; (1903)1/; 1904-16; 1950-
Cow Creek:		
Williams Lake near Amber, Wash.....	-	1955-*
Cow Creek near Keystone, Wash.....	-	1904-5*.
Cow Creek at Hooper, Wash.....	a/670	1951-53.
Snake River near Burbank, Wash.....	a/109,000	(1904*)h/; 1907-8*; 1909-17.

* Gage heights or gage heights and discharge measurements only.

a/ Approximately.

b/ About.

h/ In reports of U. S. Weather Bureau.

1/ In water-supply bulletins of State of Washington; monthly figures of discharge only.

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Anthony Fork, Oreg.....	12	Burnt River, North Fork, Oreg.....	12
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Bannock Creek, Idaho (tributary to Moore Creek).....	9	Camas Creek, Idaho (tributary to Mud Lake).....	5
Bannock Creek, Idaho (tributary to Snake River).....	4	Camas Creek, Little, Idaho.....	8
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Big Boulder Creek, Idaho.....	13	Catherine Creek, Oreg.....	13
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